

## Peace through practical, proved civil defence for credible war deterrence

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Please see also post linked here, and our summary of the key points in Herman Kahn's much-abused call for credible deterrence, *On Thernuclear War*, linked here.

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Hiroshima's air raid shelters were unoccupied because Japanese Army officers were having breakfast when B29s were detected far away, says Yoshie Oka, the operator of the Hiroshima air raid sirens on 6 August 1945...

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In 1,881 burns cases in Hiroshima, only 17 (or 0.9 percent) were due to ignited clothing and 15 (or 0.7%) were due to the firestorm flames...

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Dr Harold L. Brode's new book, Nuclear Weapons in ...

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800 war migrants drowned on 22 April by EU policy:...

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Photographed fireball shielding by cloud cover in ...

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Nuclear weapons effects "firestorm" and "nuclear w...

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Proved 97.5% survival in completely demolished houses ...

"There has never been a war yet which, if the facts had been put calmly before the ordinary folk, could not have been prevented." - British Foreign Secretary Ernest Bevin, House of Commons Debate on Foreign Affairs, Hansard, 23 November 1945, column 786 (unfortunately secret Cabinet committees called "democracy" for propaganda purposes have not been quite so successful in preventing war). Protection is needed against collateral civilian damage and contamination in conventional, chemical and nuclear attack, with credible low yield clean nuclear deterrence against conventional warfare which, in reality (not science fiction) costs far more lives. Anti scientific media, who promulgate and exploit terrorism for profit, censor (1) vital, effective civil defense knowledge and (2) effective, safe, low yield air burst clean weapons like the Mk54 and W79 which deter conventional warfare and escalation, allowing arms negotiations from a position of strength. This helped end the Cold War in the 1980s. Opposing civil defense and nuclear weapons that really deter conventional war, is complacent and dangerous.

War and coercion dangers have not stemmed from those who openly attack mainstream mistakes, but from those who camouflage themselves as freedom fighters to ban such free criticism itself, by making the key facts seem taboo, without even a proper debate, let alone financing research into unfashionable alternatives. Research and education in non-mainstream alternatives is needed before an unprejudiced debate, to establish all the basic facts for a real debate. "Wisdom itself cannot flourish, nor even truth be determined, without the give and take of debate and criticism." – Robert Oppenheimer (quotation from the H-bomb TV debate hosted by Eleanor Roosevelt, 12 February 1950).

"Apologies for freedom? I can't handle this! ... Deal from strength or get crushed every time ... Freedom demands liberty everywhere. I'm thinking, you see, it's not so easy. But we have to stand up tall and answer freedom's call!" – Freedom Kids

## Archives

Friday, July 14, 2017

New photos of non-collapsed Nevada houses after 5 psi peak overpressure in the 29 kt Teapot Apple-2 test, Nevada, 5 May 1955; plus an analysis of why the freedom of the press means freedom for dictatorial liars and thugs

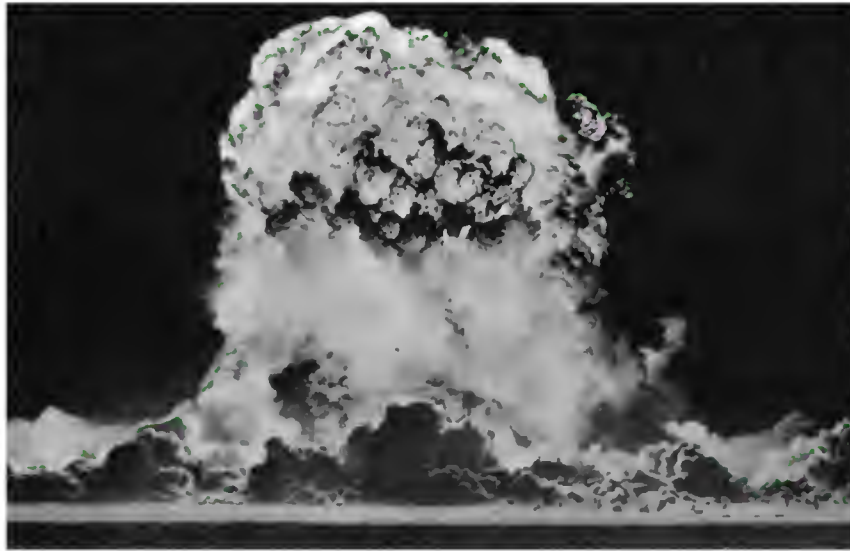




5 May 1955: Operation Teapot, shot Apple 2 (nuclear test of 29kt on 500 ft tower), giving 5 psi peak overpressure to a brick frame American house, which had the outer walls blown out in the negative (suction phase), not inwards on to people (an important debris direction distinction!). Note that the remaining partition walls prevented full collapse, but the house was later manually pulled down by the civil defence workers to prevent any risk of people entering

causing it to collapse on them. A photo of the manually-demolished (totally flattened) debris were then used for propaganda purposes (without admission that the nuclear blast had failed to collapse the house!) in the 1979 U.S. Office of Technology Assessment anti-civil defense propaganda whitewash, *The Effects of Nuclear War*.

*Actual evidence, collected in great detail by the U.K. Ministry of Home Security's wartime Research and Experiments Department (which became the great postwar U.K. Home Office Scientific Advisory Branch) from duck-and-cover under simple table shelters in Britain in WWII proved very high survival rates even when the debris was inward-moving (not outward moving) and when there was total collapse (not merely loss of outer walls) by blast (see earlier post, linked here).*



*Above: Operation Teapot (civil defense Operation Cue), shot Apple-2, 29 kt yield on 500 foot tower; fireball at Yucca Flat in Nevada on 5 May 1955.*

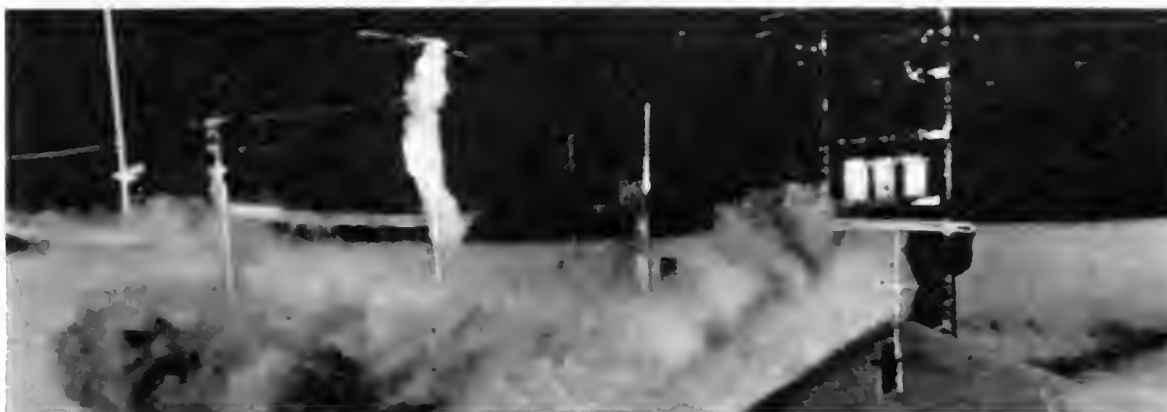
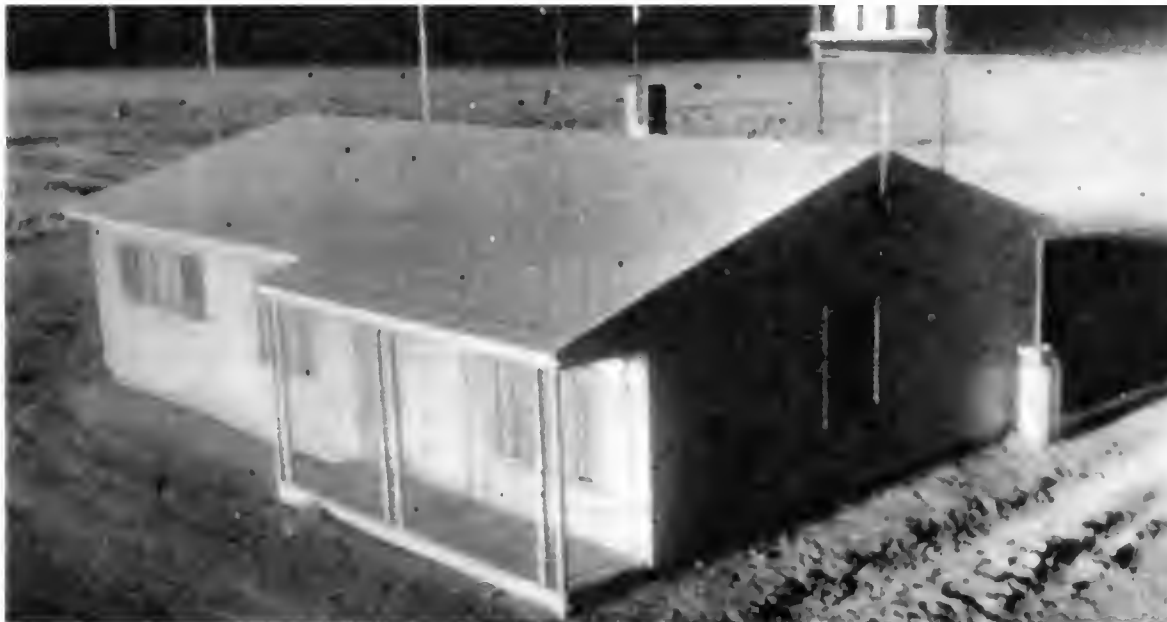









*5 May 1955 Apple 2 nuclear test of 29kt giving 5psi peak overpressure to a brick house, which does not collapse completely, and the risk of people being hit by anything other than flying glass (behind windows on the side facing the fireball) is trivial, because the walls are blown outwards, not inwards.*






*5 May 1955 Apple 2 nuclear test of 29kt giving 5psi peak overpressure to a wood frame American house on Yucca Flat, Nevada test site. Again, the cine films prove that the house failed in the negative phase, exploding outwards, not inwards. Anyone under a British Blitz "Morrison shelter" type table away from windows facing the fireball could have survived. The house didn't burn.*



June 1941

## SHELTER at home



### Introduction

Not everyone wants to leave home for shelter. Some people can't. Lots of people just prefer to remain in their own house anyway. This pamphlet is a survival one. It is a survival one, if some protection can be found against the collapse of walls and ceilings.

Shelter indoors allows you to sleep at night in reasonable security and in the warmth and comfort of your house. It also provides handy cover should there be a sudden raid in the day time.

A down has cannot be guarded against in any form of home shelter, but the risk of such a direct hit is very small compared with that of a bomb burning near enough to damage the house or to demolish it. Protection can be obtained in a house even if a bomb demolishes most of it.

The walls, doors and roof of an ordinary house give quite a lot of protection against splinters and blast from a bomb. The idea of an indoor shelter is to make use of this protection and to add safeguards against the other effects of bombs.

The chief of these is the danger of the house falling down. People have often been rescued unharmed from the ruins of demolished houses because they had taken shelter under staircases, or tables, then had by chance been strong enough to protect them from the falling ruins of the house. The chief purpose of the indoor shelters described in this pamphlet is to protect the occupants against injury when the bedroom floor, the roof and other debris fall on them.

They do not provide such an emergency escape as a garden shelter, but if you are trapped they protect you from the debris till the Rescue Party releases you. Very often, however, though the house has fallen you will be able to release yourself and walk out.

The indoor shelters with which this pamphlet deals are unsuitable for houses with more than two storeys above the shelter room. They are intended chiefly for use in ordinary two-storey houses, but have a margin of strength that will take the weight of six extra storeys.

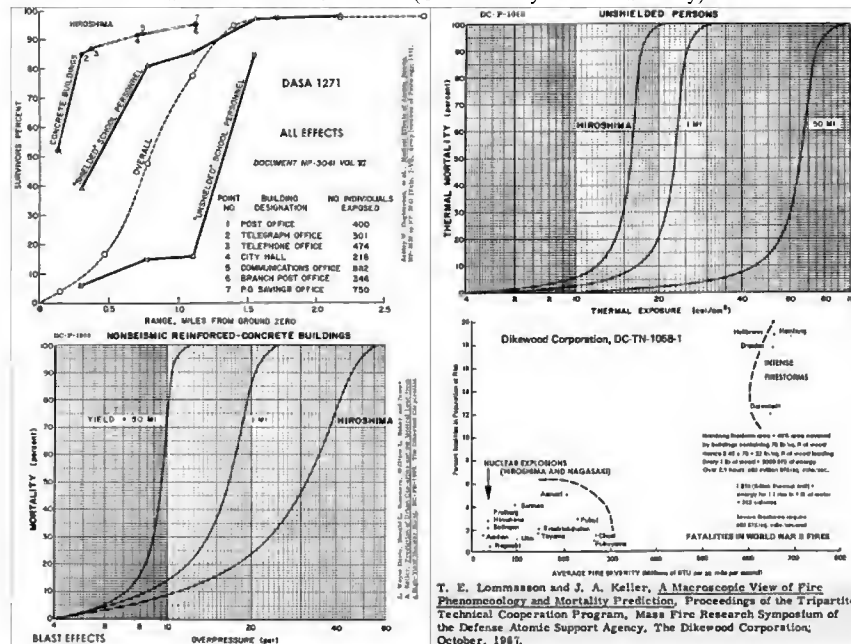
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ISSUED BY THE MINISTRY OF HOME SECURITY  
AND PUBLISHED BY H.M. STATIONERY OFFICE

### A home-made shelter

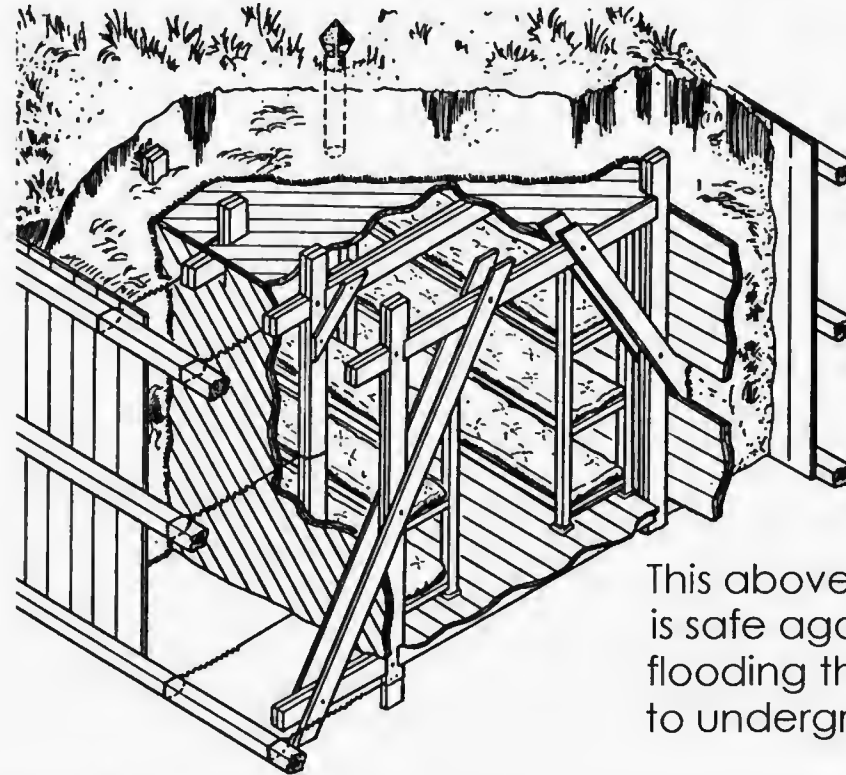
You will have noticed that in this booklet the statement that people have often been rescued from demolished houses because they had taken shelter under an ordinary table. This was because the table had by chance been strong enough to bear the weight of the falling bedroom floor. If timber framework can be built inside a refuge room to do the same thing, but with certainty, illustration no. 14 shows a completed framework.

Shelter at Home: June 1941 (U.K. Ministry of Home Security)





## PROOF-TESTED OUTDOOR ABOVE GROUND WOOD AND EARTH SHELTER



No casualties  
in test at 20 ft  
(250 kg TNT)  
(Minor damage  
to shelter from  
the crater debris)

This above ground shelter  
is safe against ground water  
flooding that occurs in winter  
to underground shelter/trench.

UK Home Office Research and Experiments Department Bulletin C26,  
*Timber shelters for countries where timber is plentiful and steel difficult  
to obtain*, April 1942. This is a surface (not underground) wooden shelter  
with 2.5 ft earth fills in the gap between two wooden walls, and on roof.



*1917 British school kids "duck and cover" under desks to avoid glass debris and shrapnel from Gotha bombing air raids. Yes, 1917, not 1941. The school girls in the photo are not fully under the desks for reasons of the photographer: they would not be seen if they were, and they would be directly under the desks in a real drill. This was a REAL threat even in 1917. On 13 June 1917, in a daytime raid on London, a bomb dropped on Upper North Street in Poplar hit a primary school, killing 18 children. This led to "duck and cover". It was based on practical facts, not propaganda. Unfortunately, the WWII data on the immense success of such cheap civil defence countermeasures against building collapse were classified Confidential in the U.K. Ministry of Home Security report RC-450 "Structural Defence 1945" (U.K. National Archives: HO 195/16/450). The Americans used "duck and cover" and had the **British report (which they used in their secret Capabilities of Atomic Weapons 1957 and Capabilities of Nuclear Weapons 1972), but didn't make public such data to support civil defence.** Hence, communist propaganda and anti-nuclear bigots had a field day trying to "ridicule" proved cheap duck and cover.*

Let's try to communicate these facts one more time, in a different way to **last time**.

U.K. National Archives document HO228/1, "Notes on the occupancy of shelters during attack by V1 weapons on London, 1944" (which we put on Internet Archive years ago) found that in a sample of 1,471 people within 170 feet of V1 explosions (approximately 1 ton of TNT) from 18 June to 28 August 1944, 853 took shelter in Andersons (outdoor earth-covered corrugated steel arches) or Morrisons (indoor steel table shelters, with 3 mm thick steel table top, roughly equivalent to a typical inch thick wooden table), and 618 did not. This was for a situation where the air raid warning sirens were basically useless in giving a credible warning.

Many V1s were fired everyday and passed over large areas before the crashing and exploding, so you had the "crying wolf" syndrome if the air raid warnings were given too often, and many people became inured to the warnings and didn't take cover. The time available to duck and cover for 1 psi blast overpressure on seeing the flash of the explosion (1 ton of TNT) was just 0.4 second, whereas you have 4 seconds for the same window-busting pressure in a 1 kiloton explosion and 40 seconds in a 1 megaton explosion. The point is, you get better civil defence possibilities in properly informed populations for nuclear attack, than for conventional explosives, especially if the civilian casualty risk is due to long range collateral damage to a city from a distant nuclear explosion on a military target. (That credible nuclear war situation maximises the time available to duck and cover, and then to take shelter or evacuate from any surface burst downwind area fallout risk.)

Next, consider shelter occupation during the 13 June 1917 air raid on London by twin-engined Gotha bombers during WWI, when 41 of the 59 people killed were exposed outdoors in the open (usually watching the aircraft bombing them!): see U.K. National Archives report 225/12, "A Comparison between the number of people killed per tonne of bombs during World War I and World War II" (which we put on Internet Archive years ago). The same report does an analysis which compared this 13 June 1917 air raid, where 69.5% of people were totally unprotected, standing outdoors while being bombed, with the World War II Blitz where only 5% of people were in the open, 60% were indoors and not in shelter (but usually in rooms with cross-taped windows or papered window glass to reduce the risk of cuts from glass fragments), and 35% were in shelters (Andersons, Morrisons, tube station tunnels, Dover caves, etc.). Even poor shelter in houses is immensely safer than exposure outdoors.

As Terrence H. O'Brien explains in the official U.K. government history book, *Civil Defence*, H.M. Stationery Office, 1955, at pages 9-13, the 13 June 1916 air raid on London by 14 Gotha bombers was the worst of the war, killing 162 and injuring 426 (because there was no duck and cover advice initially, and people moved outdoors to watch bombs falling on them, or stood behind glass windows to watch bombs fall before them and blast glass into their faces). The British government did nothing until a repeated air raid on 7 July 1916 killed another 54 and injured 190. This forced the government to make the police display "Take Cover" notices to encourage people to get indoors, and to blow whistles or even explode "maroon" sound bombs to indicate the danger for the deaf. But still nothing was done about sensible "duck and cover" indoors to reduce dangers from collapsing houses until further air raids killed school children, and forced a further improvement in civil defence advice.

Now let's consider casualty rates. The Secret 5 May 1941 British Cabinet report by Home Secretary Herbert Morrison, "Air Raids on London, September-November 1940" (U.K. National Archives document CAB 67-9) found that 1 ton of bombs totally destroyed homes for 35 people (10 houses) but killed only 6, in other words, 6/35 or 17% of those whose homes were wrecked were killed. The majority survived, even in protracted bombing air raids where few people bothered to take shelter! The report further noted: "most valuable information has been obtained on the effects of bombs in framed buildings. Such buildings are practically immune to anything but a direct hit."

Ministry of Home Security reports S118 and RC450 show the casualty rates in totally demolished buildings (grade A damage, extending to 70 feet from ground zero in V1 and V2 surface bursts). Report S118 shows that for the brief period of "duck and cover" possible in subsonic V1 cruise missile attacks on Britain in 1944, 23.5% were killed within 70 feet from ground zero (grade A damage to houses, total collapse), while RC450 shows that for the same zone in supersonic V2 missile attacks (no time for duck and cover, due to sound arriving with the shock wave), 61.9 of a sample of 155 people were killed in houses. The RC450 data for V1 missiles on brick houses, giving a very brief duck and cover time, were used in Table 6.1 of the American *Capabilities of Atomic Weapons* (TM 23-200, November 1957, Confidential) and in Table 10-1 of *Capabilities of Nuclear Weapons* (DNA-EM-1, 1972).

Even more spectacular, within 70 feet radius, over half (51.2%) were totally unhurt in completely collapsed brick houses with the brief duck and cover time for V1 attacks (source: report RC450), compared to just 16.1% unhurt for the supersonic V2 attacks which gave no time for duck and cover (source: report S118).

Report S118 is based on a detailed analysis of 12 explosions of V2 missiles without any warning in built-up areas, where 155 people were in unprotected parts of brick houses within 70 feet of ground zero (grade A damage, collapse from over 30 psi peak overpressure), and 146 were in unprotected parts of brick houses within 70-100 feet of ground zero (grade B damage, partial collapse from 15-30 psi peak overpressure). Grade C damage (cracked walls, houses standing but beyond economic repair) extended from 100-300 feet radius (2.5 to 15 psi peak overpressure) in these 1 ton TNT explosions where 90% were unhurt in brick houses, while grade D damage (glass and tiles damage) extended from 300-600 feet radius (1-2.5 psi peak overpressure) where 99.5 were hurt indoors.

Notice that these peak overpressures for 1 ton of TNT actually observed in WWII are:

70 feet radius: range of collapse or grade A damage = 30 psi peak overpressure

100 feet radius: range of partial collapse or grade B damage = 15 psi peak overpressure

300 feet radius: range of cracking to walls or grade C damage = 2.5 psi peak overpressure

600 feet radius: range of serious damage to glass and tiles or grade D damage = 1 psi peak overpressure

The same A, B, C and D damage overpressure zones defined by the U.K. government in *Nuclear Weapons* 1959 (which gives ranges corresponding to the overpressures listed below), and the pressures were reduced to take account of the longer blast duration from nuclear weapons:

grade A = 11 psi

grade B = 6 psi

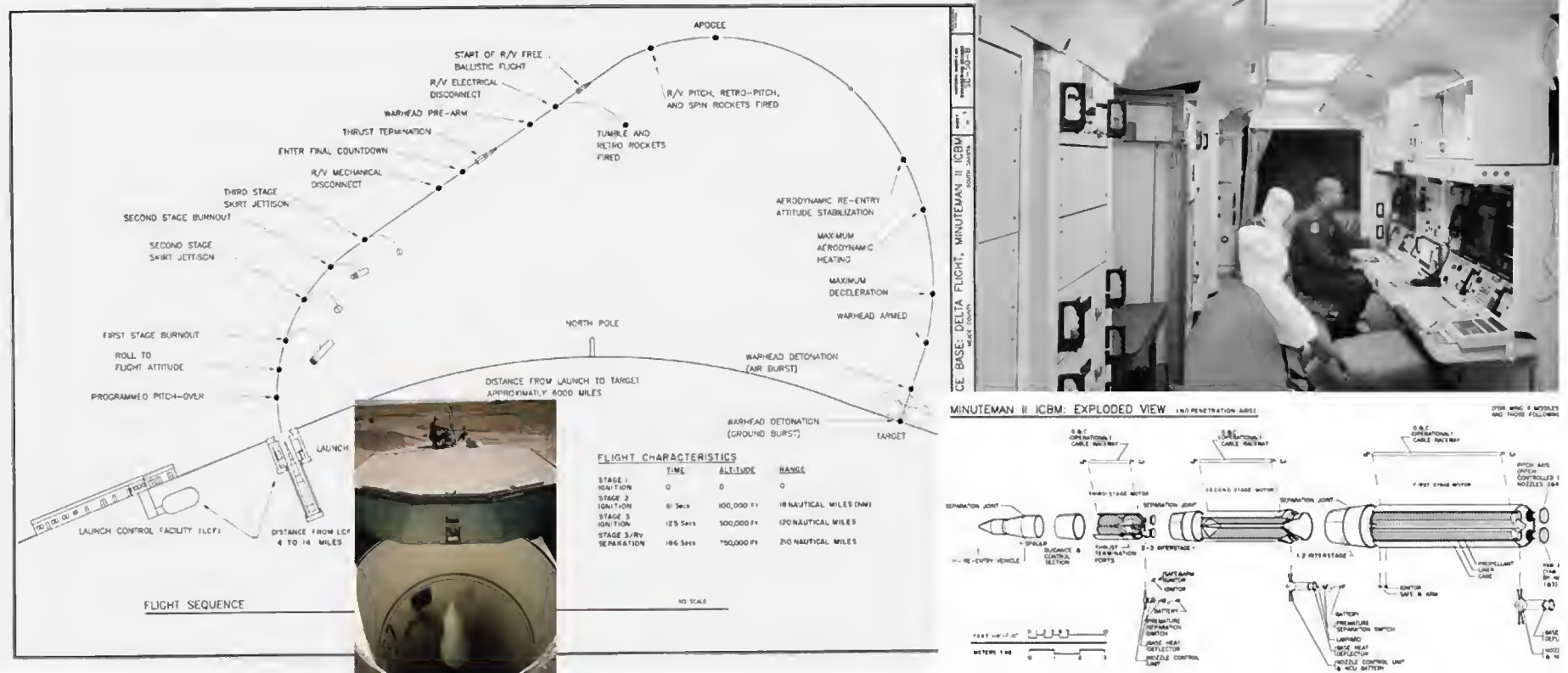
grade C = 1.5 psi

grade D = 0.75 psi

Therefore, the 1950s U.K. Civil Defence Corps was not ignoring blast duration effects in its casualty estimates, because it correlated the world war II damage (not the overpressures from 1 ton TNT bombs!) with casualty rates and then compared actual damage from Nevada tests and Japan in August 1945 with the effects of similar house damage on people in Britain in WWII. (CND type propaganda during the 1980s from Phil Bolsover, the BBC and Duncan Campbell falsely claimed that the UK data was based on blast pressures from conventional bombs. But, as we have shown, the Home Office took account of this, showing that grade A damage brick house was caused by 30 psi peak overpressure in 1 ton of TNT V1 and V2 bombs, but required only 11 psi for nuclear weapons with a long blast duration, and so on.)

If we move to the data in each report (S118 and RC450) for the grade B damage (partial collapse) at 70-100 feet radius from 1 ton of TNT, we find that only 2.7% are killed for V1 attacks (slight duck and cover, report source RC450) compared to 7.5% killed for V2 attacks (no duck and cover).

The reports also give data for injuries (light injuries which require only plasters for glass cuts, and serious injuries which require hospital attention for broken bones, etc.). But when you look into the **details in the original reports** you actually find that far from minimising casualty data, the U.K. reports maximise and tend to *exaggerate casualties, because the few casualties that did occur in shelters tended to result from people ignoring the instructions and putting table shelters into rooms with unprotected glass windows or on insecure floors, or not properly bolting the shelters together*. Very few casualties if any tended to occur where the local street air raid wardens had inspected the shelters and ensured they were properly located and constructed!

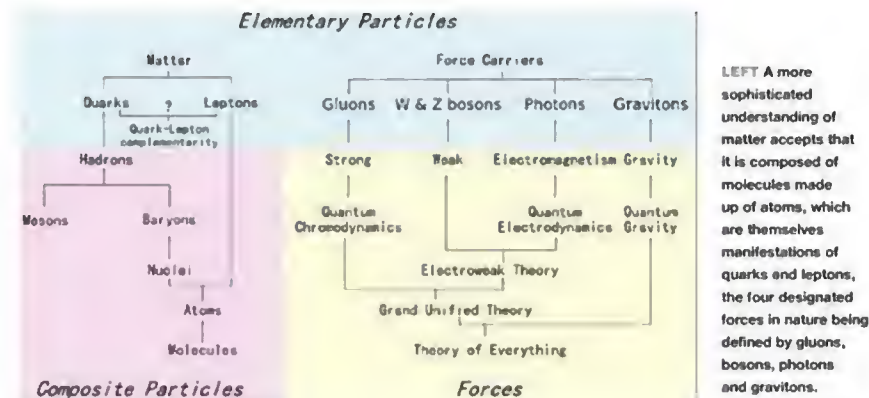


Minuteman missile flight trajectory example ([click here for larger view](#)).

Update (15 July 2017):



Dr David Baker's September 2017 Haynes *Nuclear Weapons Manual* now has a [preview on amazon, two months before publication](#). I remember being told by a physics professor that only criticisms from the famous are taken objectively, so maybe since I'm not famous, I'd better avoid making any criticisms. From the selection of extracts available, it's a coffee table version of existing, widely known information, rather than setting out a more revolutionary approach that kills off propaganda.



David Baker's nice schematic of elementary physics digs a little deeper than the superficial drivel of most "introductions".

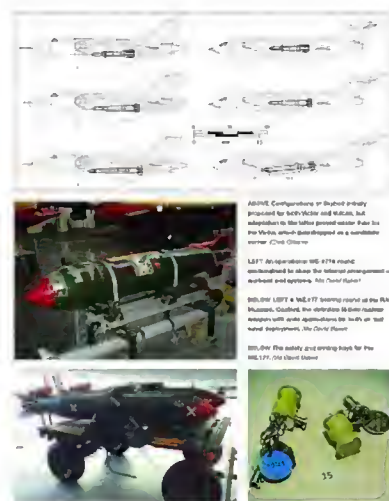




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100	The French Empire bomb	
100	The French Empire bomb	
100	The French Empire bomb	
<b>100</b>	<b>The French Colonies bomb</b>	
100	First test	
100	The French Colonies bomb	
100	The French Colonies bomb	
100	The French Colonies bomb	
100	The French Colonies bomb	
<b>100</b>	<b>The French Protectorates bomb</b>	
100	First test	
100	The French Protectorates bomb	
100	The French Protectorates bomb	
100	The French Protectorates bomb	
100	The French Protectorates bomb	
<b>100</b>	<b>The French Mandates bomb</b>	
100	First test	
100	The French Mandates bomb	
100	The French Mandates bomb	
100	The French Mandates bomb	
100	The French Mandates bomb	
<b>100</b>	<b>The French Trust Territories bomb</b>	
100	First test	
100	The French Trust Territories bomb	
100	The French Trust Territories bomb	
100	The French Trust Territories bomb	
100	The French Trust Territories bomb	
<b>100</b>	<b>The French Associated States bomb</b>	
100	First test	
100	The French Associated States bomb	
100	The French Associated States bomb	
100	The French Associated States bomb	
100	The French Associated States bomb	
<b>100</b>	<b>The French Overseas Territories bomb</b>	
100	First test	
100	The French Overseas Territories bomb	
100	The French Overseas Territories bomb	
100	The French Overseas Territories bomb	
100	The French Overseas Territories bomb	
<b>100</b>	<b>The French Overseas Collectivities bomb</b>	
100	First test	
100	The French Overseas Collectivities bomb	
100	The French Overseas Collectivities bomb	
100	The French Overseas Collectivities bomb	
100	The French Overseas Collectivities bomb	
<b>100</b>	<b>The French Overseas Territories bomb</b>	
100	First test	
100	The French Overseas Territories bomb	
100	The French Overseas Territories bomb	
100	The French Overseas Territories bomb	
100	The French Overseas Territories bomb	
<b>100</b>	<b>The French Overseas Collectivities bomb</b>	
100	First test	
100	The French Overseas Collectivities bomb	
100	The French Overseas Collectivities bomb	
100	The French Overseas Collectivities bomb	
100	The French Overseas Collectivities bomb	

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124  
The British nuclear warheads

**1961** The requirements of an intercontinental ballistic missile (ICBM) are not only to deliver a nuclear warhead to a target, but also to be able to be launched from a mobile launcher. The British ICBM, the SS-9, was designed to be launched from a mobile launcher. The SS-9 was designed to be launched from a mobile launcher. The SS-9 was designed to be launched from a mobile launcher.

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125  
The British nuclear warheads

Dr Baker does do a very good job at covering the development of nuclear weapons by different countries, such as this example of British nuclear weapons including the configurations of the weapon options and photos of arming keys.



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The British nuclear warheads

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The British nuclear warheads

Baker also discusses warhead delivery systems such as Trident.

Review of Henry Wickham Steed (former Times newspaper editor), *The Press*, Penguin books, 14 October 1938

*The Pope may launch his Interdict,  
The Union its decree,  
But the bubble is blown and the bubble is pricked*

*By us and such as we.*

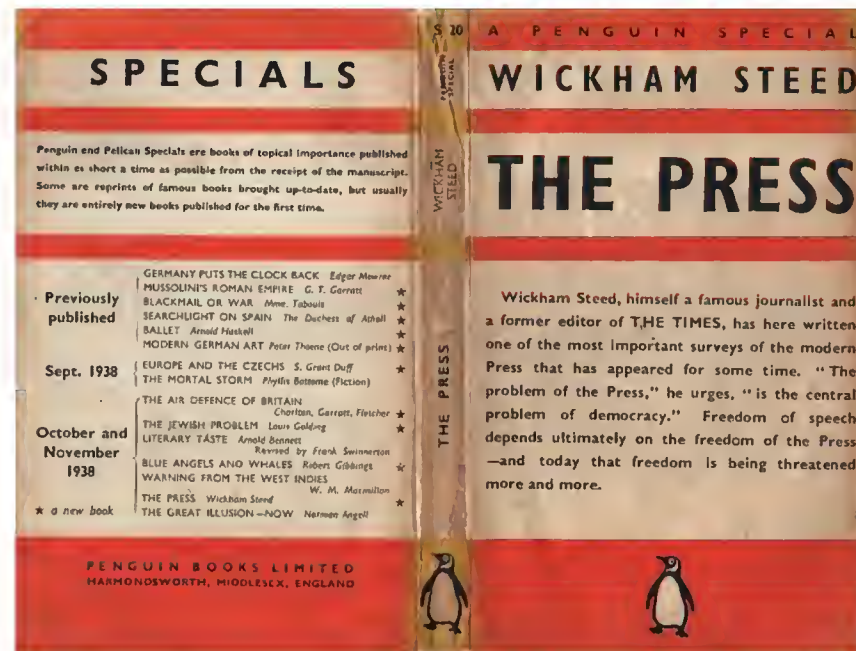
*Remember the battle and stand aside,*

*While thrones and powers confess*

*That King over all the children of pride*

*Is the press, the press, the press.*

*- Kipling, The Press*



Above: first edition of *The Press* by Henry Wickham Steed, Penguin Special S20, 250 pages (update on pages 249-250 is dated 14 October 1938)

Steed's *The Press* is vitally important for understanding the current taboo on the publication and broadcast of the nuclear weapons capabilities facts by the mainstream media, because there was a similar taboo on a similar subject (arms and deterrence) for a similar reason ("political correctness") when he wrote it, in 1938, during the disarmament of the west relative to the fascist Nazi regime. (Both were then arming, but the Nazis were doing it much faster than Britain, so the arms gap was widening and the prospects for winning a war were diminishing every day.)

The basic cause of the lack of free speech and publication then was exactly the same as it is today: foreign fascists, and other dictatorial regimes who hate free liberty, cloaked themselves in false liberal colours and claimed to be "offended" by free speech which denounced their aggressive threats.

As we previously pointed out in detail, contrary to popular historical drivel, the fact is that Winston Churchill was busy writing his histories of the Duke of Marlborough during the period, and his only contributions made the problems worse. As appeaser Professor Cyril Joad pointed out in his *Why War?*, Churchill had *prior to the first world war* debated pacifist drivel monger and liar Sir Norman Angell on the arms race, losing the argument. Angell simply sneered that if both sides try to deter the other, they will cause fail. He didn't explain how. The audience were taken by Angell's lies, not Churchill's blathering. It's the old Machiavellian story of factual evidence losing the battle in the media because its proponents are pompous fools and can't make the evidence convincing:

"But to come to those who, by their own ability and not through fortune, have risen to be princes, I say that Moses, Cyrus, Romulus, Theseus, and such like are the most excellent examples. ... It was necessary, therefore, to Moses that he should find the people of Israel in Egypt enslaved and oppressed by the Egyptians, in order that they should be disposed to follow him so as to be delivered out of bondage. It was necessary that Romulus should not remain in Alba, and that he should be abandoned at his birth, in order that he should become King of Rome and founder of the fatherland. It was necessary that Cyrus should find the Persians discontented with the government of the Medes, and the Medes soft and effeminate through their long peace. Theseus could not have shown his ability had he not found the Athenians dispersed. These opportunities, therefore, made those men fortunate, and their high ability enabled them to recognize the opportunity whereby their country was ennobled and made famous.

"Those who by valorous ways become princes, like these men, acquire a principality with difficulty, but they keep it with ease. The difficulties they have in acquiring it arise in part from the new rules and methods which they are forced to introduce to establish their government and its security. And it ought to be remembered that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new. This coolness arises partly from fear of the opponents, who have the laws on their side, and partly from the incredulity of men, who do not readily believe in new things until they have had a long experience of them. Thus it happens that whenever those who are hostile have the opportunity to attack they do it like partisans, whilst the others defend lukewarmly, in such wise that the prince is endangered along with them.

"It is necessary, therefore, if we desire to discuss this matter thoroughly, to inquire whether these innovators can rely on themselves or have to depend on others: that is to say, whether, to consummate their enterprise, have they to use prayers or can they use force? In the first instance they always succeed badly, and never compass anything; but when they can rely on themselves and use force, then they are rarely endangered. Hence it is that all armed prophets have conquered, and the unarmed ones have been destroyed. Besides the reasons mentioned, the nature of the people is variable, and whilst it is easy to persuade them, it is difficult to fix them in that persuasion. And thus it is necessary to take such measures that, when they believe no longer, it may be possible to make them believe by force.

If Moses, Cyrus, Theseus, and Romulus had been unarmed they could not have enforced their constitutions for long - as happened in our time to Fra Girolamo Savonarola, who was ruined with his new order of things immediately the multitude believed in him no longer, and he had no means of keeping steadfast those who believed or of making the unbelievers to believe. Therefore such as these have great difficulties in consummating their enterprise, for all their dangers are in the ascent, yet with ability they will overcome them; but when these are overcome, and those who envied them their success are exterminated, they will begin to be respected, and they will continue afterwards powerful, secure, honoured, and happy.

"To these great examples I wish to add a lesser one; still it bears some resemblance to them, and I wish it to suffice me for all of a like kind: it is Hiero the Syracusan. This man rose from a private station to be Prince of Syracuse, nor did he, either, owe anything to fortune but opportunity; for the Syracusans, being oppressed, chose him for their captain, afterwards he was rewarded by being made their prince. He was of so great ability, even as a private citizen, that one who writes of him says he wanted nothing but a kingdom to be a king. This man abolished the old soldiery, organized the new, gave up old alliances, made new ones; and as he had his own soldiers and allies, on such foundations he was able to build any edifice: thus, whilst he had endured much trouble in acquiring, he had but little in keeping."

- Nicolo Machiavelli, *The Prince*, Chapter VI, "Concerning New Principalities which are acquired by one's own arms and ability".

Steed in *The Press* puts himself in the position of Machiavelli by telling the reader truths they don't want to hear about the "news". On page 248 Steed writes:

"My paper would be national, not nationalist. It would be liberal, not Liberal. It would strive for Peace, without pacifism. ... Never would it fall into the grievous error of thinking the avoidance of conflict the same thing as peace. ... men will never be weaned from war, with its spirit of life-risking adventure, unless peace enlist the spirit of self-devotion and self-sacrifice in ways worthier than those of war. My newspaper would seek to link the nations not only against war but in defence of individual freedom and of human right ... it would work to harness all classes of citizens to the task of constructive improvement in the edifice of society."

On pages 249-250, Steed's 14 October 1938 update to the book damns the British media's appeasing cover-up of Nazi genocide in the Munich Agreement signed by Chamberlain days earlier, allowing the invasion of the Sudetenland without a bullet being fired, in the name of "peace", while Hitler monitored the British press and coerced Neville Henderson and Chamberlain into putting "old boy" pressure the publishers to fire appeasement critics like Captain W. E. Johns, editor of both Flying and Popular Flying, and to get Hitler critic cartoonist David Low to tone down his attacks (such critics were attacked falsely as racists who irrationally hate war mongering Aryans, etc):

"Since these lines were written in mid-September the British press has - with one or two notable exceptions - made further progress on the road that leads to totalitarian servitude. Though we are not yet in a state of war ... the great majority of our newspapers toned down the news and withheld frank comment upon it.

"This they did partly in response to suggestions of "confidentially" made by some clandestine organisation that represents, or pretends to represent, the [anti-Jew, pro-fascist] views of official quarters. No newspaper, as far as I am aware, has denounced in public this impertinent meddling with the freedom of responsible journalism.

"On the early afternoon of Sunday, October 9, the German Dictator, Herr Hitler, fortified by the Munich Agreement and by a scrap of paper which he and the British Prime Minister had signed - publicly told Great Britain to mind her own business and not to meddle with Germany's business; and, on pain of German displeasure, he placed his veto upon the return to office of three prominent British public men.

"When this news was broadcast on the evening of Sunday, October 9, the whole nation was moved to wrath. Of the depth of its wrath hardly a hint was given next morning in the leading British newspapers ... large advertising agents had warned journals for which they provide much revenue that *advertisements would be withheld from them should they 'play up' the international crisis and cause an alarm which was 'bad for trade'*. [Emphasis added.]

"None of the newspapers thus warned dared to publish the names of these advertisement agents or to hold them up to public contempt [it's unlikely that this would have worked if they had the mindset of former Labour Party MP fascist Sir Oswald Moseley, who openly wanted fascism in Britain, ran a "Blackshirt" newspaper in Britain, and had some powerful supporters camouflaged as "anti-war" pacifists on his side]. And this at a moment when it is of the utmost national importance to unite the country in defence of its freedom and, maybe, of its independent existence!

"Never since the distant days of Ethelred the Unready [a Chamberlain-like weak King who was never ready for the invading Danes and tried to buy them off, which just encouraged more and more blackmail] and the later days of Charles II, have more humiliating pages of British history been written than those which bear the record of the past few weeks.

"Of Ethelred the Unready and the period of Danegeld the *Anglo-Saxon Chronicle* said: 'All these calamities fell upon us because of evil counsel, because tribute was not offered to them [the Danes] at the right time nor yet were they resisted; but when they had done the most evil, then was peace made with them'."



"Of civil counsel there has been no lack during recent years. 'Leading' organs of the British Press have offered it in plenty [*in 1935 Labour Party leader pacifist George Lansbury resigned at the thought of having to deter Nazi fascists from over-running the planet, and replaced by the disarmer Clement Attlee who we have quoted at length in previous posts, dismissing deterrence; thus Chamberlain had no real opponents and could rearm Britain slower than Hitler to avoid credibly deterring him*]. 'Leading' organs of the British Press have offered it in plenty.

"It would remain only for them to accept with dutiful submissiveness the claim which Herr Hitler has already put forward, and may soon renew, that unless the British Government wishes to incur German hostility it must so control British newspapers as to prevent them from taking exception to anything Herr Hitler may say or do.

"Fortunately, there are signs [too late to deter Hitler] that a spirit of revolt against this foreign dictation is stirring ... May this spirit spread ... until it finds courage to serve neither the timidity nor the dictatorial itch of Governments but the public to whom alone it owes allegiance."

This is a pretty damning critique of the British Press in 1938 by a former Times newspaper editor. He was damned as a racist by the Nazis for writing that book, and Chamberlain's fascist mindset continued, getting Captain W. E. Johns fired for his Flying and Popular Flying magazine criticisms early in 1939. It was only after the civil defence was really going, with Anderson shelter development in February 1939, that the mood changed and the press realised that its appeasement of Hitler's peace propaganda lies was wallpapering over the news of a real threat that needed to be stopped, and that war would not annihilate everyone in a few seconds if there was evacuation and shelter in place to reduce the dangers. Conclusion: the "free" press is a laggard and historically stopped dissemination of facts in an unequivocal manner, until too late to credibly deter aggression.

#### **Why the freedom of the press means freedom for dictatorial liars and thugs**

It is fashionable for self-proclaimed "liberals" who hate freedom to prattle on about the existence of "freedom of the press", as if that freedom to elitist, rich thugs is any better than, say "freedom of dictators", "freedom of elitists", "freedom of bigots", or indeed "freedom of liars". Steed quotes Socrates:

"The sun might as easily be spared from the universe as free speech from the liberal institutions of society."

But Steed recognised that bigoted dictators like Hitler are easily "offended" by the "rudeness" of any critics (if the critic is so polite that the criticism is impotent, it's not a severe criticism, is it?) and states the key question on page 7 of *The Press*:

"Dictatorial systems which muzzle or control the Press and do away with freedom of speech and of public and private criticism, are claiming for themselves a degree of political and social efficiency superior to that of democracies. How far is this claim warranted? ... One thing they cannot tolerate is the freedom of public knowledge that goes to the forming of sound judgement."

On page 8, Steed argues that the Aryan Nazi fascist racism is as bad as his own families Jewish-Marxist hate of liberty, in suppressing objective, rational criticisms and smearing critics with abuse:

"Unless there is freedom to know, to agree or to disagree, there cannot be enlightened support of the men charged with the conduct of public affairs. In other words, there cannot exist the instructed public opinion which is the mainstay of democratic governments."



For that defence of freedom of speech and critical debate, despite having a Jewish family, Steed was called a racist by the Jewish Marxists who prefer a Nazi-type Stalinist dictatorship to honest debate, because of their fanatical, paranoid hatred of "capitalism". Steed explains on pages 8-9 the problem:

"... absence of informed criticism or agreement, and the restriction of public knowledge, tend to breed the corruption and other forms of inefficiency to which dictatorial systems are particularly liable. The same lack of public control allows abuses to grow until they reach a point at which a community is compelled to conspire or to rebel against its rulers, seeing that no other means of redress can be found. Thus, the end of dictatorship may be chaos and social disorder."

Another prescient remark is made by Steed on page 28 of *The Press*, on the subject of the future of television (which was still in its infancy in 1938):

"... television should enable people to see what is actually taking place and to be spectators of real events. Thus, it may exercise their powers of direct observation and strengthen, rather than weaken, their perceptive and reasoning faculties. If so, it will be a gain, both to the public and to the press."

Steed on page 41 of *The Press* also offers sage editorial advice to journalists and authors on the eternal problem of being fashionable enough to be of interest to potential readers:

"If the Press would lead, it must first follow. In any case, it must march so nearly abreast of its readers as to seem to be keeping pace with them. To run too far ahead is to lose touch. ... The crowd likes to feel that those whom it follows know where to go, and how to get there. Above all, the crowd likes its leaders to be proved right by events. It does not easily forgive those who mislead or who fail to guide it at difficult turnings."

Steed adds on page 42:

"Mr Bernard Shaw has written some shrewd truths upon journalism. 'What people cannot endure,' he declares, 'is the pompous oracle with nothing to say ... They prefer snippets because the snippets are usually much better. But let anyone come along who can supply the real thing, and the public cannot have enough of it. ... offices are prisons in which the cleverest editor will soon lose touch with the world, being cut off as he is from political meetings, scientific lectures, concerts and even dinners by the hours during which he has to work.'"

He adds on page 57 a summary of the bugbears for different regimes that use "fashion" censorship:

"Communist Russia cannot tolerate free discussion upon matters like the ownership of property. Nazi Germany cannot allow the dogmas of blood and race to be called in question. Fascist Italy cannot brook free enquiry into the nature or functions of the state, or into the position of individuals in regard to the state."

On the next page, Steed quotes John Stuart Mill's *On Liberty*: "A person may cause evil to others not only by his actions, but by his inaction, and in either case he is justly accountable to them for the injury."

The point here is that censorship prevents the correction of error, as Steed explains on page 58:

"This sound doctrine applies with especial force to the freedom of the press. In free countries, the press fails in its proper task if it glosses over or shirks from exposing abuses or practices harmful to the general welfare."

On pages 63-64, Steed explains that Hitler's error was in assuming that the diversity of thought between Aryan and Jewish cultures in Germany in WWI led to defeat, whereas supposed unity or herd like co-operation in Britain led to its victory in that war:

"Human progress, as I understand it, has not been bought about by 'mass thought' or 'likemindedness' [*Although this was important in American and British factories for the efficient manufacture of munitions in WWI, and is also used in large lecture theatres for mass-education and for scientific journals to indoctrinate people in fashionable dogmas regardless of the benefits of less fashionable alternatives which, with funding, are eventually shown to model the data more consistently. Since 1972 this has been named "groupthink" by Dr Irving Janis.*] ... The worth of freedom is that it gives a chance to individual minds to wrestle with error and ignorance, so seek what is true and to proclaim it, and, no matter at what risk, to bear witness to the truth they have found. It is an opportunity for personal enterprise and endeavour; and, politically and socially, an opening for public service. It is the antithesis of dictatorial constraint."

Steed explains on page 68 of *The Press* that in Nazi Germany, Herr Wilhelm Waldkirch's book, *Die Zeitungspolitische Aufgabe*, or *The Political Task of the Press*, instructs newspapers to communicate Hitler's messages to the people, and as Hitler himself said (a quote the communists believe, too):

"A newspaper is the means of popular self-education [if it is censored by bigoted dogmatists]."

Now contrast this crap of Adolf Hitler to the London 7 February 1852 *The Times* newspaper editorial:

"The duty of the journalist is the same as that of the historian - to seek out the truth, above all things, and to present it to his readers, not such things as statecraft would wish them to know, but the truth as near as he can attain it."

Steed argues that wars and revolutions are the lifeblood of the news on page 110 of *The Press*:

"... in August 1642, three months after Charles I had raised his standard against Parliament at Nottingham, the first true newspaper came into being. Regular English journalism began with the Civil War and the political strife that led up to it. From the outset it was vivacious and, on the whole, truthful."

He explains on page 112:

"It was not by accident that the first English newspapers took shape between 1640 and 1688, that is to say, during the troubled period covered by the reign of Charles I, the Commonwealth, and the reigns of Charles II and James II, for at no time in English history had so many conflicting political ideas and passions filled the public mind, or had the essentials of political freedom been so fiercely debated. With the Revolution of 1688, the expulsion of James II and the accession of William and Mary, English political ideas began profoundly to influence the Continent of Europe. The movement of thought represented by Locke's essays on *Toleration* and *Concerning the Human Understanding* led, directly and indirectly, to the "Encyclopaedism" [the political satires of Voltaire, et al.] which was to culminate in the French Revolution of 1789, after having been responsible, in part, for the terms of the American Declaration of Independence, on July 4, 1776."

Steed argues on page 113:

"This movement of thought might not have spread and flourished without the constant discussion of fundamental principles in English newspapers ..."

He explains that King Charles II had tried to prevent this freedom of the press by his 1680 proclamation *For Restraining the Printing of News, Books and Pamphlets of News without Leave*. In other words, Charles II was well aware that the free press was being used to incite and spread dissent and revolutionary conspiracies that (in the words of Charles II's Chief Justice Scroggs in 1680) "showed a manifest intent to breach the peace", and tried to stamp it out by using censorship (like the Vatican's Index of heretical books). But in 1695, Parliament liberated the press from the shackles of Charles II's law. During the period 1680-1695, England had to rely on personal letters and word of mouth for uncensored news, as in Nazi Germany and the USSR.

Steed writes on page 114 of *The Press* that the liberation of the press from censorship in 1695 led to an explosion in popular publications:

"Within a few weeks of the freeing of the Press from censorship, a number of newspapers of a fresher type came into existence ... On May 17, 1695, appeared the *Flying Post*, published thrice weekly. It was followed quickly by *The English Courant*, the *Post Boy* and the *Weekly Messenger*, all of which were morning papers. ... On Wednesday March 11, 1702, however, the *Daily Courant* was published. It was the first English daily paper."

What is most interesting on pages 166-167 of Steed's *The Press* is his discussion of how Hitler controlled the censorship of criticism of Nazi propaganda in Britain's "free press" in Britain:

"Totalitarian Governments often profess to desire peace and friendship ... So foreign criticism and the publication [in free countries] of unpleasant facts are deplored as tending to 'impede friendship and to endanger peace'. Moreover, when independent and well-informed writers in free countries comment truthfully upon the doings of totalitarian Governments, the ambassadors or other emissaries of those Governments [whose job it is explain foreign newspaper headlines and leading articles with the dictator] lose no time in suggesting to newspaper proprietors or editors [*or in the case of David Low's cartoons or the Flying and Popular Flying magazines editor Captain WE Johns, cabinet ministers, who can coerce and pull strings with otherwise independent-minded publishers*] that the publication of contributions from such writers 'irritate' the dictators and are therefore dangerous. ... to restrain foreign criticism without causing public resentment.

"Herr Hitler has, it is true, publicly demanded that British newspapers be brought under Government control, at least to the extent of suppressing criticism of himself or of Nazi Germany. And he threatened Great Britain with a 'National Socialist answer' if this were not done. ... They forgot that in dealing with bullies, meekness is a vice."

Hitler's answer to charges that he was bully was simply to assert that his critics were bullies. The word doesn't convey any meaning without the context being taken into account: who is telling the lies, and who is exposing the relevant facts against the censorship of liars? That tells you who the bully is. While you might claim that everybody has the right to censoring others, the problem is that this gives a free hand to lying fairy-tale "story tellers" who publish partial facts and refuse to engage in debate with real opponents, publishing only praising comments, which make them appear right. That was the subtle tactic used by Hitler: there was *no censorship* of people writing to *praise him!*

President Ronald Reagan put this beautifully as a joke, along the following lines:

American says to a Russian comrade: "I'm liberal, as I'm free to criticise the American government."

Russian replies: "I'm *also* liberal, as I'm *also free* to criticise the American government!"

(The point being made is that, even in the worst dictatorships, there is plenty of so-called "freedom" if you just love dictatorships and praise the dictator, or you criticise or attack the dictator's enemies!)



The attempts of Hitler to use influence over the *Daily Mail* and other British newspapers for fascist revolution in London were in 1936 analysed in detail by Nazi researcher Dr Max Gruenbeck in his two-volume treatise on the British press for fascists, *Die Presse Grossbritanniens*, a work approved officially by Hitler's expert on foreign media, Dr Ernst Hanfstaengel (Chief of the Nazi Party Foreign Press Department), and that book is quoted by Steed on pages 174-175 of *The Press*, as follows:

"Especially in recent years, British newspaper men and politicians insist that Great Britain and the United States of America are countries where the Press is absolutely free. ... When Lord Rothermere's papers [e.g. London *Daily Mail*] gave vigorous support for a time to the Fascist movement [of former Labour Party MP, Sir Oswald Mosley] in England their initiative was throttled in a few weeks by their advertisement department ... The State has various possibilities of influencing newspapers; and, particularly at critical moments, old and half-forgotten laws like the Official Secrets Act can be brought forward to throw serious shadows upon the halo of British newspaper freedom."

Ummm. Nazis appealing to the British Official Secrets Act to defend fascism? That was of course exactly what happened in 1935 when British government fascist-supporting appeasers used the trick of keeping secret estimates on the size of the illegal German Air Force, while making public statements denying any air threat, but then suddenly reversed direction when Hitler announced an air force and announced that the German Air Force was not only real but *too big to fight*, so that *due to the Official Secrets Act*, at no time was there an admitted "emerging threat" which could be stopped!

Steed explains on page 194 how secrecy laws in France were abused by a spy who had infiltrated the French military, Colonel Henry, who gave French military secrets to Germany and covered up the disclosures by fabricating a trumped up charge against an innocent scapegoat, Captain Dreyfus, who was wrongly convicted of treason on the basis of faked evidence by the spy, and was sentenced to penal servitude on the worst French prison, in Devil's Isle. This led to Emile Zola's article *J'accuse*, and Colonel Henry's eventual arrest and suicide in 1898. Steed had met Bernard Lazare, the French Jew who exposed the facts that led to Zola's article, while he was working on a history of liberal thought in Europe, in Paris University, as he explains on page 194 of *The press*:

"This 'Dreyfus Affair' contained in germ the anti-Jewish feeling that has since been exploited by Hitler in Germany. The French anti-Semites made capital out of it. They claimed that the honour of the French Army was offended by suggestions that a French court martial had condemned an innocent man ... So fierce did controversy become that the stability of the French Republic was believed to be threatened. ... And, since Germany and Italy were alleged to have benefited by Captain Dreyfus's 'treason', the crisis took on a dangerous international character."

posted by Nuclear Weapons Effects 3:35 pm 0 comments  

Peace through tested, proved and practical declassified countermeasures against the effects of nuclear weapons, chemical weapons and conventional weapons. Credible deterrence through simple, effective protection against invasions and collateral damage. Discussions of the facts as opposed to inaccurate, misleading lies of the "disarm or be annihilated" political dogma variety. Hiroshima and Nagasaki anti-nuclear propaganda debunked by the hard facts. Walls not wars. Walls bring people together by stopping divisive terrorists. **CONVENTIONAL WARS HAVE KILLED TENS OF MILLIONS OF PEOPLE, NUCLEAR WEAPONS CAN RAPIDLY DETER THIS REAL THREAT TO PEACE WITH MINIMAL CASUALTIES.** 'During the critical period 8-15 February [1968], the U.S. command realized [that conventional] bombing was not sufficiently effective. ... The air campaign dropped over 110,000 tons of bombs and napalm on the area around Khe Sanh during the 77-day siege ... the most heavily bombed target in the history of conventional warfare.' – W. C. Yengst, S. J. Lukasik, and M. A. Jensen, *Nuclear Weapons that went to War*, SAID report DSWA-TR-97-25, September 1998 (quoted in the 2015 book by the secret *Capabilities of Nuclear Weapons* editor, Dr Harold L. Brode, *Nuclear Weapons in the Cold War*, page 287). [British Nuclear Test Civil Defence Research](#)



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SECRETDR. PENNEY'S DRAFT BROADCAST

Recorded: 30 October 1952

15

When the planning began, a lot of thought was given to deciding which type of explosion would provide information and experience of the greatest value. Purely scientific measurements are most easily made when the weapon is placed at the top of a high tower, but there were other weighty considerations. The Civil Defence authorities in this country badly needed more data about atomic explosions and, accordingly, the test was planned to get as much novel information as possible for Civil Defence. The decision was made to explode the weapon in a ship moored near land, thus simulating an explosion in a

CHANGE 1

Field Manual No 101-31-1

### NUCLEAR WEAPONS EMPLOYMENT DOCTRINE AND PROCEDURES

**Radius of vulnerability (emergency risk criterion: 5% combat ineffective)**

Figure 54. Radii of Vulnerability.

CATEGORY	PERSONNEL (LL) IN— (Based on Governing Effect)				
	Open	Open Foxholes	APCs	Tanks	Earth Shelter
Radii listed are distances at which a 5 percent incidence of effect occurs. HOB used is $60W^{1/3}$ meters.					
Yield (KT)	Open	Open Foxholes	APCs	Tanks	Earth Shelter
(Distances are in meters)					
0.1	700	600	600	500	300
1	1200	900	900	800	500
10	3200	1300	1300	1250	900

**Protective factor = ratio of  
area of effect in the open,  
area of effect for shelter**

Example: for 300 kt, the protective  
factor of open foxholes is equal to  
 $(14,000)^2 / (2,100)^2 = 44$ .

Open	Open Foxholes	APCs	Tanks	Earth Shelter
1	1.36	1.36	1.96	5.44
1	1.78	1.78	2.25	5.76
1	6.06	6.06	6.55	12.6



Yield (kt)	Population (millions)	Survivors (millions)	Protective Factor	Yield (kt)	Population (millions)	Survivors (millions)	Protective Factor
20	4000	1500	1450	1400	1000	1	7.11
100	8000	1900	1800	1800	1400	1	17.7
200	12000	2000	1900	1900	1500	1	36.0
300	14000	2100	1950	1950	1600	1	44.4

Calculation of the injury-averting protective factors by simple open foxholes and earth shelter function of weapon yield. Most countermeasures are relatively ineffective against tactical nuclear weapons (due to the predominating neutron radiation effect at 0.1 kt yield), but are extremely effective against strategic nuclear weapons with yields of 100, 200 and 300 kt (protective factors of 44 to 76.6).

The definition of protective factor used here is the factor by which casualties numbers are reduced.

Richard P. Feynman, 'This Unscientific Age', in *The Meaning of It All*, Penguin Books, London, 1998, pages 106-9:

'Now, I say if a man is absolutely honest and wants to protect the populace from the effects of radioactivity, which is what our scientific friends often say they are trying to do, then he should work on the biggest number, not on the smallest number, and he should try to point out that the [natural cosmic] radioactivity which is absorbed by living in the city of Denver is so much more serious [than the smaller doses from nuclear explosions] ... that all the people of Denver ought to move to lower altitudes.'

"If a man reads or hears a criticism of anything in which he has an interest, watch ... if he shows concern with any question except 'is it true?' he thereby reveals that his own attitude is unscientific. Likewise if ... he judges an idea not on its merits but with reference to the author of it; if he criticizes it as 'heresy'; if he argues that authority must be right because it is authority ... The path of truth is paved with critical doubt, and lighted by the spirit of objective enquiry... the majority of people have resented what seems in retrospect to have been purely matter of fact ... nothing has aided the persistence of falsehood, and the evils resulting from it, more than the unwillingness of good people to admit the truth ... the tendency continues to be shocked by natural comment, and to hold certain things too 'sacred' to think about. ... How rarely does one meet anyone whose first reaction to anything is to ask: 'is it true?' Yet, unless that is a man's natural reaction, it shows that truth is not uppermost in his mind, and unless it is, true progress is unlikely."

- Sir Basil Henry Liddell Hart, *Why Don't We Learn from History?*, PEN Books, 1944; revised edition, Allen and Unwin, 1972.

Civil defense countermeasures, to be taken seriously by the population, require the publication of solid facts with the scientific evidence to support those facts against political propaganda to the contrary. Secrecy over the effects of nuclear weapons tests does not hinder plutonium and missile production by rogue states, but it does hinder civil defense countermeasures, by permitting lying political propaganda to go unopposed (see linked post, here).

Terrorists successfully prey on the vulnerable. The political spreading of lies concerning threats and the alleged 'impossibility' of all countermeasures, terrorizing the population in order to 'justify' supposedly pro-peace disarmament policies in the 1920s-1930s, resulted in the secret rearmament of fascist states which were terrorizing the Jews and others, eventually leading to World War II.

Political exaggerations about nuclear weapons effects today:

(1) encourage terrorist states and other groups to secretly invest in such weapons to use either for political intimidation or for future use against countries which have no countermeasures, and

(2) falsely dismiss, in the eyes of the media and the public, cheap relatively effective countermeasures like civil defense and ABM.

Therefore, doom-mongering media lies make us vulnerable to the proliferation threat today in two ways, just as they led to both world wars:

**(1) Exaggerations of offensive technology and a down-playing of simple countermeasures such as trenches, encouraged belligerent states to start World War I in the false belief that modern technology implied overwhelming firepower which would terminate the war quickly on the basis of offensive preparedness: if the facts about simple trench countermeasures against shelling and machine guns during the American Civil War had been properly understood, it would have been recognised by Germany that a long war based on munitions production and logistics would be necessary, and war would have been seen to be likely to lead to German defeat against countries with larger overseas allies and colonies that could supply munitions and the other resources required to win a long war.**

**(2) Exaggerations of aerial bombardment technology after World War I led to disarmament 'supported by' false claims that it was impossible to have any defense against a perceived threat of instant annihilation from thousands of aircraft carrying gas and incendiary bombs, encouraging fascists to secretly rearm in order to successfully take advantage of the fear and vulnerability caused by this lying political disarmament propaganda.**

**Contrived dismissal of civil defense by Marxist "Cambridge Scientists Anti-War Group" bigots: (a) appeased war-mongering enemies, and (b) maximised war mortality rates. Idealism kills. Super effective, fully proof-tested, cheap civil defense makes nuclear deterrence credible to stop conventional war devastation by avoiding collateral damage, tit-for-tat retaliation and escalation.**

Historically, it has been proved that having weapons is not enough to guarantee a reasonable measure of safety from terrorism and rogue states; countermeasures are also needed, both to make any deterrent credible and to negate or at least mitigate the effects of a terrorist attack. Some people who wear seatbelts die in car crashes; some people who are taken to hospital in ambulances, even in peace-time, die. Sometimes, lifebelts and lifeboats cannot save lives at sea. This lack of a 100% success rate in saving lives doesn't disprove the value of everyday precautions or of hospitals and medicine. Hospitals don't lull motorists into a false sense of security, causing them to drive faster and cause more accidents. Like-minded 'arguments' against ABM and civil defense are similarly vacuous.

'As long as the threat from Iran persists, we will go forward with a missile system that is cost-effective and proven. If the Iranian threat is eliminated, we will have a stronger basis for security, and the driving force for missile-defense construction in Europe will be removed.'

**- President Obama, Prague Castle, Czech Republic, 4 April 2009.**

**Before 9/11, Caspar Weinberger was quizzed by skeptical critics on the BBC News program *Talking Point*, Friday, May 4, 2001: Caspar Weinberger quizzed on new US Star Wars ABM plans:**

'The [ABM] treaty was in 1972 ... The theory ... supporting the ABM treaty [which prohibits ABM, thus making nations vulnerable to terrorism] ... that it will prevent an arms race ... is perfect nonsense because we have had an arms race all the time we have had the ABM treaty, and we have seen the greatest increase in proliferation of nuclear weapons that we have ever had. ... So the ABM treaty preventing an arms race is total nonsense. ...

'You have to understand that without any defences whatever you are very vulnerable. **It is like saying we don't like chemical warfare - we don't like gas attacks - so we are going to give up and promise not to have any defences ever against them and that of course would mean then we are perfectly safe. ...**

'The Patriot was not a failure in the Gulf War - the Patriot was one of the things which defeated the Scud and in effect helped us win the Gulf War. One or two of the shots went astray but that is true of every weapon system that has ever been invented. ...

**'The fact that a missile defence system wouldn't necessarily block a suitcase bomb is certainly not an argument for not proceeding with a missile defence when a missile that hits can wipe out hundreds of thousands of lives in a second. ...**

**'The curious thing about it is that missile defence is not an offensive weapon system - missile defence cannot kill anybody. Missile defence can help preserve and protect your people and our allies, and the idea that you are somehow endangering people by having a defence strikes me almost as absurd as saying you endanger people by having a gas mask in a gas attack. ...**

‘President Bush said that we were going ahead with the defensive system but we would make sure that nobody felt we had offensive intentions because we would accompany it by a unilateral reduction of our nuclear arsenal. It seems to me to be a rather clear statement that proceeding with the missile defence system would mean fewer arms of this kind.

‘You have had your arms race all the time that the ABM treaty was in effect and now you have an enormous accumulation and increase of nuclear weapons and that was your arms race promoted by the ABM treaty. Now if you abolish the ABM treaty you are not going to get another arms race - *you have got the arms already there* - and if you accompany the missile defence construction with the unilateral reduction of our own nuclear arsenal then it seems to me you are finally getting some kind of inducement to reduce these weapons.’

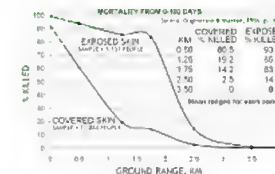
*Before the ABM system is in place, and afterwards if ABM fails to be 100% effective in an attack, or is bypassed by terrorists using a bomb in a suitcase or in a ship, civil defense is required and can be effective at saving lives:*

‘Paradoxically, the more damaging the effect, that is the farther out its lethality stretches, the more can be done about it, because in the last fall of its power it covers vast areas, where small mitigations will save very large numbers of people.’

- Peter Laurie, *Beneath the City Streets: A Private Inquiry into the Nuclear Preoccupations of Government*, Penguin, 1974.

‘The purpose of a book is to save people [the] time and effort of digging things out for themselves. ... we have tried to leave the reader with something tangible – what a certain number of calories, roentgens, etc., means in terms of an effect on the human being. ... we must think of the people we are writing for.’

– Dr Samuel Glasstone, DSc, letter dated 1 February 1957 to Colonel Dent L. Lay, Chief, Weapons Effects Division, U.S. Armed Forces Special Weapons Project, Washington, D.C., pages 2 and 4, concerning the preparation of *The Effects of Nuclear Weapons*.



Glasstone and Dolan stated in *The Effects of Nuclear Weapons* (1977), Table 12.17 on page 546, that the median distance in Hiroshima for survival after 20 days was 0.12 miles for people in concrete buildings and 1.3 miles for people standing outdoors. Therefore the median distances for survival in modern city buildings and in the open differed by a factor of 11 for Hiroshima; the difference in areas was thus a factor of  $11^2$  or about 120. Hence, taking cover in modern city buildings reduces the casualty rates and the risks of being killed by a factor of 120 for Hiroshima conditions, contrary to popular media presented political propaganda that civil defence is hopeless. This would reduce 120,000 casualties to 1,000 casualties.

From Dr Glasstone's *Effects of Nuclear Weapons* (1962/64 ed., page 631): ‘At distances between 0.3 and 0.4 mile from ground zero in Hiroshima the average survival rate, for at least 20 days after the nuclear explosion, was less than 20 percent. Yet in two reinforced concrete office buildings, at these distances, almost 90 percent of the nearly 800 occupants survived more than 20 days, although some died later of radiation injury. Furthermore, of approximately 3,000 school students who were in the open and unshielded within a mile of ground zero at Hiroshima, about 90 percent were dead or missing after the explosion. But of nearly 5,000 students in the same zone who were shielded in one way or another, only 26 percent were fatalities. ... survival in Hiroshima was possible in buildings at such distances that the overpressure in the open was 15 to 20 pounds per square inch. ... it is evident ... that the area over which protection could be effective in saving lives is roughly eight to ten times as great as that in which the chances of survival are small.’

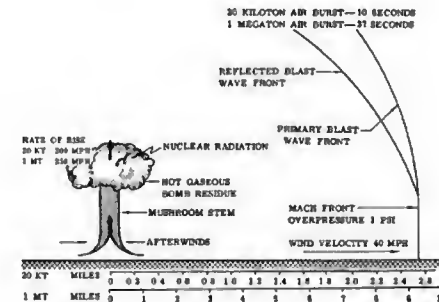
Lord Mayhew, House of Lords debate on Civil Defence (General Local Authority Functions) Regulations, Hansard, vol. 444, cc. 523-49, 1 November 1983: ‘... if there had been effective civil defence at Hiroshima probably thousands of lives would have been saved and much human suffering would have been avoided. There is no question about it. ...’



Since the 1977 update by **Glasstone and Dolan**, **extensive new updates to EM-1 for a further revised edition** of *The Effects of Nuclear Weapons* have not actually been published with unlimited public distribution, due to President Carter's 1979 executive order which transferred responsibility for civil defense from the jurisdiction of the U.S. Department of Defense's Defense Civil Preparedness Agency to the new agency (which is not an Agency of the U.S. Department of Defense, and is not concerned with the analysis of nuclear weapons test effects data), the Federal Emergency Management Agency. However, the **February 1997 U.S. Department of Defense's Defense Special Weapons Agency 0602715H RDT&E Budget Item Justification Sheet (R-2 Exhibit)** states that a revision of Glasstone and Dolan's unclassified *Effects of Nuclear Weapons* was budgeted for 1997-9:

**"FY 1997 Plans: ... Provide text to update Glasstone's book, *The Effects of Nuclear Weapons*, the standard reference for nuclear weapons effects. ... Update the unclassified textbook entitled, *The Effects of Nuclear Weapons*. ... Continue revision of Glasstone's book, *The Effects of Nuclear Weapons*, the standard reference for nuclear weapons effects. ... FY1999 Plans ... Disseminate updated *The Effects of Nuclear Weapons*."**

The new publications are either classified or unclassified with limited distribution restrictions (e.g., **Bridgman's *Introduction to the Physics of Nuclear Weapons Effects*, which includes several chapters on nuclear weapons design to enable initial radiation outputs to be calculated precisely**) which prevents up-to-date basic nuclear effects information to justify civil defense against the latest nuclear threats from being widely disseminated; the books are printed for use only by government agencies. The problem with this approach is that widespread public understanding of the best information for civil defense countermeasures is prevented.



'The evidence from Hiroshima indicates that blast survivors, both injured and uninjured, in buildings later consumed by fire [caused by the blast overturning charcoal braziers used for breakfast in inflammable wooden houses filled with easily ignitable bamboo furnishings and paper screens] were generally able to move to safe areas following the explosion. Of 130 major buildings studied by the U.S. Strategic Bombing Survey ... 107 were ultimately burned out ... Of those suffering fire, about 20 percent were burning after the first half hour. The remainder were consumed by fire spread, some as late as 15 hours after the blast. This situation is not unlike the one our computer-based fire spread model described for Detroit.'

- Defense Civil Preparedness Agency, U.S. Department of Defense, *DCPA Attack Environment Manual, Chapter 3: What the Planner Needs to Know About Fire Ignition and Spread*, report CPG 2-1A3, June 1973, Panel 27.

***The Effects of the Atomic Bomb on Hiroshima, Japan*, US Strategic Bombing Survey, Pacific Theatre, report 92, volume 2 (May 1947, secret):**

**Volume one, page 14:**

**"... the city lacked buildings with fire-protective features such as automatic fire doors and automatic sprinkler systems", and pages 26-28 state the heat flash in Hiroshima was only:**

**"... capable of starting primary fires in exposed, easily combustible materials such as dark cloth, thin paper, or dry rotted wood exposed to direct radiation at distances usually within 4,000 feet of the point of detonation (AZ)."**

**Volume two examines the firestorm and the ignition of clothing by the thermal radiation flash in Hiroshima:**

**Page 24:**

“Scores of persons throughout all sections of the city were questioned concerning the ignition of clothing by the flash from the bomb. ... Ten school boys were located during the study who had been in school yards about 6,200 feet east and 7,000 feet west, respectively, from AZ [air zero]. These boys had flash burns on the portions of their faces which had been directly exposed to rays of the bomb. The boys’ stories were consistent to the effect that their clothing, apparently of cotton materials, ‘smoked,’ but did not burst into flame. ... a boy’s coat ... started to smoulder from heat rays at 3,800 feet from AZ.” [Contrast this to the obfuscation and vagueness in Glasstone, *The Effects of Nuclear Weapons*!]

**Page 88:**

“Ignition of the City. ... Only directly exposed surfaces were flash burned. Measured from GZ, flash burns on wood poles were observed at 13,000 feet, granite was roughened or spalled by heat at 1,300 feet, and vitreous tiles on roofs were blistered at 4,000 feet. ... six persons who had been in reinforced-concrete buildings within 3,200 feet of air zero stated that black cotton blackout curtains were ignited by radiant heat ... dark clothing was scorched and, in some cases, reported to have burst into flame from flash heat [*although as the 1946 unclassified USSBS report admits, most immediately beat the flames out with their hands without sustaining injury, because the clothing was not drenched in gasoline, unlike peacetime gasoline tanker road accident victims*]

“... but a large proportion of over 1,000 persons questioned was in agreement that a great majority of the original fires was started by debris falling on kitchen charcoal fires, by industrial process fires, or by electric short circuits. Hundreds of fires were reported to have started in the centre of the city within 10 minutes after the explosion. Of the total number of buildings investigated [135 buildings are listed] 107 caught fire, and in 69 instances, the probable cause of initial ignition of the buildings or their contents was as follows: (1) 8 by direct radiated heat from the bomb (primary fire), (2) 8 by secondary sources, and (3) 53 by fire spread from exposed [wooden] buildings.”

**‘It is true that the Soviets have tested nuclear weapons of a yield higher than that which we thought necessary, but the 100-megaton bomb of which they spoke two years ago does not and will not change the balance of strategic power. The United States has chosen, deliberately, to concentrate on more mobile and more efficient weapons, with lower but entirely sufficient yield ...’ - President John F. Kennedy in his television broadcast to the American public, 26 July 1963.**

‘During World War II many large cities in England, Germany, and Japan were subjected to terrific attacks by high-explosive and incendiary bombs. Yet, when proper steps had been taken for the protection of the civilian population and for the restoration of services after the bombing, there was little, if any, evidence of panic. It is the purpose of this book to state the facts concerning the atomic bomb, and to make an objective, scientific analysis of these facts. It is hoped that as a result, although it may not be feasible completely to allay fear, it will at least be possible to avoid panic.’

**– Dr George Gamow (the big bang cosmologist), Dr Samuel Glasstone, DSc (Executive Editor of the book), and Professor Joseph O. Hirschfelder, *The Effects of Atomic Weapons*, Chapter 1, p. 1, Paragraph 1.3, U.S. Department of Defense, September 1950.**

‘The consequences of a multiweapon nuclear attack would certainly be grave ... Nevertheless, recovery should be possible if plans exist and are carried out to restore social order and to mitigate the economic disruption.’

**- Philip J. Dolan**, editor of *Nuclear Weapons Employment* FM 101-31 (1963), *Capabilities of Nuclear Weapons* DNA-EM-1 (1972), and *The Effects of Nuclear Weapons* (1977), Stanford Research Institute, Appendix A of the **U.S. National Council on Radiological protection (NCRP) symposium *The Control of Exposure to the Public of Ionising Radiation in the Event of Accident or Attack*, 1981.**

‘Suppose the bomb dropped on Hiroshima had been 1,000 times as powerful ... It could not have killed 1,000 times as many people, but at most the entire population of Hiroshima ... [regarding the hype about various nuclear "overkill" exaggerations] there is enough water in the oceans to drown everyone ten times.’

- **Professor Brian Martin, PhD (physics), 'The global health effects of nuclear war', *Current Affairs Bulletin*, Vol. 59, No. 7, December 1982, pp. 14-26.**

In 1996, half a century after the nuclear detonations, data on cancers from the Hiroshima and Nagasaki survivors was published by D. A. Pierce et al. of the Radiation Effects Research Foundation, RERF (*Radiation Research* vol. 146 pp. 1-27; *Science* vol. 272, pp. 632-3) for 86,572 survivors, of whom 60% had received bomb doses of over 5 mSv (or 500 millirem in old units) suffering 4,741 cancers of which only 420 were due to radiation, consisting of 85 leukemias and 335 solid cancers.

‘Today we have a population of 2,383 [radium dial painter] cases for whom we have reliable body content measurements. . . . All 64 bone sarcoma [cancer] cases occurred in the 264 cases with more than 10 Gy [1,000 rads], while no sarcomas appeared in the 2,119 radium cases with less than 10 Gy.’

- **Dr Robert Rowland, Director of the Center for Human Radiobiology, *Bone Sarcoma in Humans Induced by Radium: A Threshold Response?*, *Proceedings of the 27th Annual Meeting, European Society for Radiation Biology, Radioprotection colloquies*, Vol. 32CI (1997), pp. 331-8.**

**Zbigniew Jaworowski, 'Radiation Risk and Ethics: Health Hazards, Prevention Costs, and Radiophobia', *Physics Today*, April 2000, pp. 89-90:**

‘... it is important to note that, given the effects of a few seconds of irradiation at Hiroshima and Nagasaki in 1945, a threshold near 200 mSv may be expected for leukemia and some solid tumors. [Sources: UNSCEAR, *Sources and Effects of Ionizing Radiation*, New York, 1994; W. F. Heidenreich, et al., *Radiat. Environ. Biophys.*, vol. 36 (1999), p. 205; and B. L. Cohen, *Radiat. Res.*, vol. 149 (1998), p. 525.] For a protracted lifetime natural exposure, a threshold may be set at a level of several thousand millisieverts for malignancies, of 10 grays for radium-226 in bones, and probably about 1.5-2.0 Gy for lung cancer after x-ray and gamma irradiation. [Sources: G. Jaikrishan, et al., *Radiation Research*, vol. 152 (1999), p. S149 (for natural exposure); R. D. Evans, *Health Physics*, vol. 27 (1974), p. 497 (for radium-226); H. H. Rossi and M. Zaider, *Radiat. Environ. Biophys.*, vol. 36 (1997), p. 85 (for radiogenic lung cancer).] The hormetic effects, such as a decreased cancer incidence at low doses and increased longevity, may be used as a guide for estimating practical thresholds and for setting standards. ...

‘Though about a hundred of the million daily spontaneous DNA damages per cell remain unrepaired or misrepaired, apoptosis, differentiation, necrosis, cell cycle regulation, intercellular interactions, and the immune system remove about 99% of the altered cells. [Source: R. D. Stewart, *Radiation Research*, vol. 152 (1999), p. 101.] ...

‘[Due to the Chernobyl nuclear accident in 1986] as of 1998 (according to UNSCEAR), a total of 1,791 thyroid cancers in children had been registered. About 93% of the youngsters have a prospect of full recovery. [Source: C. R. Moir and R. L. Telander, *Seminars in Pediatric Surgery*, vol. 3 (1994), p. 182.] ... The highest average thyroid doses in children (177 mGy) were accumulated in the Gomel region of Belarus. The highest incidence of thyroid cancer (17.9 cases per 100,000 children) occurred there in 1995, which means that the rate had increased by a factor of about 25 since 1987.

‘This rate increase was probably a result of improved screening [not radiation!]. Even then, the incidence rate for occult thyroid cancers was still a thousand times lower than it was for occult thyroid cancers in nonexposed populations (in the US, for example, the rate is 13,000 per 100,000 persons, and in Finland it is 35,600 per 100,000 persons). Thus, given the prospect of improved diagnostics, there is an enormous potential for detecting yet more [fictitious] “excess” thyroid cancers. In a study in the US that was performed during the period of active screening in 1974-79, it was determined that the incidence rate of malignant and other thyroid nodules was greater by 21-fold than it had been in the pre-1974 period. [Source: Z. Jaworowski, *21st Century Science and Technology*, vol. 11 (1998), issue 1, p. 14.]’

‘Professor **Edward Lewis** used data from four independent populations exposed to radiation to demonstrate that the incidence of leukemia was linearly related to the accumulated dose of radiation. ... Outspoken scientists, including Linus Pauling, used **Lewis**’s risk estimate to inform the public about the danger of nuclear fallout by estimating the number of leukemia deaths that would be caused by the test detonations. In May of 1957 **Lewis**’s analysis of the radiation-induced human leukemia data was published as a lead article in *Science* magazine. In June he presented it before the Joint Committee on Atomic Energy of the US Congress.’ – Abstract of thesis by Jennifer



Caron, *Edward Lewis and Radioactive Fallout: the Impact of Caltech Biologists Over Nuclear Weapons Testing in the 1950s and 60s*, Caltech, January 2003.

Dr John F. Loutit of the Medical Research Council, Harwell, England, in 1962 wrote a book called *Irradiation of Mice and Men* (University of Chicago Press, Chicago and London), discrediting the pseudo-science from geneticist **Edward Lewis** on pages 61, and 78-79:

'... Mole [R. H. Mole, *Brit. J. Radiol.*, v32, p497, 1959] gave different groups of mice an integrated total of 1,000 r of X-rays over a period of 4 weeks. But the dose-rate - and therefore the radiation-free time between fractions - was varied from 81 r/hour intermittently to 1.3 r/hour continuously. The incidence of leukemia varied from 40 per cent (within 15 months of the start of irradiation) in the first group to 5 per cent in the last compared with 2 per cent incidence in irradiated controls. ...

'What **Lewis** did, and which I have not copied, was to include in his table another group - spontaneous incidence of leukemia (Brooklyn, N.Y.) - who are taken to have received only natural background radiation throughout life at the very low dose-rate of 0.1-0.2 rad per year: the best estimate is listed as  $2 \times 10^{-6}$  like the others in the table. But the value of  $2 \times 10^{-6}$  was not calculated from the data as for the other groups; it was merely adopted. By its adoption and multiplication with the average age in years of Brooklynners - 33.7 years and radiation dose per year of 0.1-0.2 rad - a mortality rate of 7 to 13 cases per million per year due to background radiation was deduced, or some 10-20 per cent of the observed rate of 65 cases per million per year. ...

'All these points are very much against the basic hypothesis of **Lewis** of a linear relation of dose to leukemic effect irrespective of time. Unhappily it is not possible to claim for **Lewis**'s work as others have done, "It is now possible to calculate - within narrow limits - how many deaths from leukemia will result in any population from an increase in fall-out or other source of radiation" [Leading article in *Science*, vol. 125, p. 963, 1957]. This is just wishful journalese.

'The burning questions to me are not what are the numbers of leukemia to be expected from atom bombs or radiotherapy, but what is to be expected from natural background .... Furthermore, to obtain estimates of these, I believe it is wrong to go to [1950s inaccurate, dose rate effect ignoring, data from] atom bombs, where the radiations are qualitatively different [i.e., including effects from neutrons] and, more important, the dose-rate outstandingly different.'

**Samuel Glasstone and Philip J. Dolan, *The Effects of Nuclear Weapons*, 3rd ed., 1977, pp. 611-3:**

'From the earlier studies of radiation-induced mutations, made with fruitflies [by Nobel Laureate Hermann J. Muller and other geneticists who worked on plants, who falsely hyped their insect and plant data as valid for mammals like humans during the June 1957 U.S. Congressional Hearings on fallout effects], it appeared that the number (or frequency) of mutations in a given population ... is proportional to the total dose ... More recent experiments with mice, however, have shown that these conclusions need to be revised, at least for mammals. [*Mammals are biologically closer to humans, in respect to DNA repair mechanisms, than short-lived insects whose life cycles are too small to have forced the evolutionary development of advanced DNA repair mechanisms, unlike mammals that need to survive for decades before reproducing.*] When exposed to X-rays or gamma rays, the mutation frequency in these animals has been found to be dependent on the exposure (or dose) rate ...

'At an exposure rate of 0.009 roentgen per minute [0.54 R/hour], the total mutation frequency in female mice is indistinguishable from the spontaneous frequency. [Emphasis added.] **There thus seems to be an exposure-rate threshold below which radiation-induced mutations are absent** ... with adult female mice ... a delay of at least seven weeks between exposure to a substantial dose of radiation, either neutrons or gamma rays, and conception causes the mutation frequency in the offspring to drop almost to zero. ... **recovery** in the female members of the population would bring about a substantial reduction in the 'load' of mutations in subsequent generations.'

George Bernard Shaw cynically explains groupthink brainwashing bias:

'We cannot help it because we are so constituted that we always believe finally what we wish to believe. The moment we want to believe something, we suddenly see all the arguments for it and become blind to the arguments against it. The moment we want to disbelieve anything we have previously believed, we suddenly discover not only that there is a mass of evidence against, but that this evidence was staring us in the face all the time.'

From the essay titled 'What is Science?' by Professor Richard P. Feynman, presented at the fifteenth annual meeting of the National Science Teachers Association, 1966 in New York City, and published in *The Physics Teacher*, vol. 7, issue 6, 1968, pp. 313-20:

'... great religions are dissipated by following form without remembering the direct content of the teaching of the great leaders. In the same way, it is possible to follow form and call it science, but that is pseudo-science. In this way, we all suffer from the kind of tyranny we have today in the many institutions that have come under the influence of pseudoscientific advisers.

'We have many studies in teaching, for example, in which people make observations, make lists, do statistics, and so on, but these do not thereby become established science, established knowledge. They are merely an imitative form of science analogous to the South Sea Islanders' airfields - radio towers, etc., made out of wood. The islanders expect a great airplane to arrive. They even build wooden airplanes of the same shape as they see in the foreigners' airfields around them, but strangely enough, their wood planes do not fly. The result of this pseudoscientific imitation is to produce experts, which many of you are. ... you teachers, who are really teaching children at the bottom of the heap, can maybe doubt the experts. As a matter of fact, I can also define science another way: Science is the belief in the ignorance of experts.'

Richard P. Feynman, 'This Unscientific Age', in *The Meaning of It All*, Penguin Books, London, 1998, pages 106-9:

'Now, I say if a man is absolutely honest and wants to protect the populace from the effects of radioactivity, which is what our scientific friends often say they are trying to do, then he should work on the biggest number, not on the smallest number, and he should try to point out that the [natural cosmic] radioactivity which is absorbed by living in the city of Denver is so much more serious [than the smaller doses from nuclear explosions] ... that all the people of Denver ought to move to lower altitudes.'

Feynman is *not* making a point about low level radiation effects, but about the politics of ignoring the massive natural background radiation dose, while provoking hysteria over much smaller measured fallout pollution radiation doses. Why is the anti-nuclear lobby so concerned about banning nuclear energy - which is not possible even in principle since most of our nuclear radiation is from the sun and from supernova debris contaminating the Earth from the explosion that created the solar system circa 4,540 million years ago - when they could cause much higher radiation dose reductions to the population by concentrating on the higher radiation source, natural background radiation. It is possible to shield natural background radiation by the air, e.g. by moving the population of high altitude cities to lower altitudes where there is more air between the people and outer space, or banning the use of high-altitude jet aircraft. The anti-nuclear lobby, as Feynman stated back in the 1960s, didn't crusade to reduce the bigger dose from background radiation. Instead they chose to argue against the *much smaller* doses from fallout pollution. Feynman's argument is still today falsely interpreted as a political statement, when it is actually exposing pseudo-science and countering political propaganda. It is still ignored by the media. It has been pointed out by Senator Hickenlooper on page 1060 of the May-June 1957 U.S. Congressional Hearings before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy, *The Nature of Radioactive Fallout and Its Effects on Man*:

'I presume all of us would earnestly hope that we never had to test atomic weapons ... but by the same token I presume that we want to save thousands of lives in this country every year and we could just abolish the manufacture of [road accident causing] automobiles ...'

Dihydrogen monoxide is a potentially very dangerous chemical containing hydrogen and oxygen which has caused numerous severe burns by scalding and deaths by drowning, contributes to the greenhouse effect, accelerates corrosion and rusting of many metals, and contributes to the erosion of our natural landscape: 'Dihydrogen monoxide (DHMO) is colorless, odorless, tasteless, and kills uncounted thousands of people every year. Most of these deaths are caused by accidental inhalation of DHMO, but the dangers of dihydrogen monoxide do not end there. Prolonged exposure to its solid form causes severe tissue damage. Symptoms of DHMO ingestion can include excessive sweating and urination, and possibly a bloated feeling, nausea, vomiting and body electrolyte imbalance. For those who have become dependent, DHMO withdrawal means certain death.'

From the site for the petition against dihydrogen monoxide: **'Please sign this petition and help stop This Invisible Killer. Get the government to do something now. ... Contamination Is Reaching Epidemic Proportions! Quantities of dihydrogen monoxide have been found in almost every stream, lake, and reservoir in America today. But the pollution is global, and the contaminant has even been found in Antarctic ice. DHMO has caused millions of dollars of property damage in the Midwest, and recently California.'**

A recent example of the pseudoscientific radiation 'education' masquerading as science that Feynman (quoted above) objected to in the 1960s was published in 2009 in an article called 'The proportion of childhood leukaemia incidence in Great Britain that may be caused by natural background ionizing radiation' in *Leukemia*, vol. 23 (2009), pp. 770–776, which falsely asserts - in contradiction to the evidence that the no-threshold model is *contrary* to Hiroshima and Nagasaki data: 'Risk models based primarily on studies of the Japanese atomic bomb survivors imply that low-level exposure to ionizing radiation, including ubiquitous natural background radiation, also raises the risk of childhood leukaemia. Using two sets of recently published leukaemia risk models and estimates of natural background radiation red-bone-marrow doses received by children, about 20% of the cases of childhood leukaemia in Great Britain are predicted to be attributable to this source.' The authors of this pseudoscience which is the opposite of the facts are R. Wakeford (Dalton Nuclear Institute, University of Manchester, Manchester, UK), G. M. Kendall (Childhood Cancer Research Group, Oxford, UK), and M. P. Little (Department of Epidemiology and Public Health, Imperial College, London, UK). It is disgusting and sinful that the facts about childhood leukemia are being lied on so blatantly for non-scientific purposes, and it is to be hoped that these leukemia investigators will either correct their errors or alternatively be banned from using scientific literature to promote false dogma for deception until they mend the error of their ways and repent their sins in this matter.

Protein P53, discovered only in 1979, is encoded by gene TP53, which occurs on human chromosome 17. P53 also occurs in other mammals including mice, rats and dogs. P53 is one of the proteins which continually repairs breaks in DNA, which easily breaks at body temperature: the DNA in each cell of the human body suffers at least two single strand breaks every second, and one double strand (i.e. complete double helix) DNA break occurs at least once every 2 hours (5% of radiation-induced DNA breaks are double strand breaks, while 0.007% of spontaneous DNA breaks at body temperature are double strand breaks)! Cancer occurs when several breaks in DNA happen to occur by chance at nearly the same time, giving several loose strand ends at once, which repair proteins like P53 then repair incorrectly, causing a mutation which can be proliferated somatically. This cannot occur when only one break occurs, because only two loose ends are produced, and P53 will reattach them correctly. But if low-LET ionising radiation levels are increased to a certain extent, causing more single strand breaks, P53 works faster and is able deal with faster breaks as they occur, so that multiple broken strand ends do not arise. This prevents DNA strands being repaired incorrectly, and prevents cancer - a result of mutation caused by faults in DNA - from arising. Too much radiation of course overloads the P53 repair mechanism, and then it cannot repair breaks as they occur, so multiple breaks begin to appear and loose ends of DNA are wrongly connected by P53, causing an increased cancer risk.

1. DNA-damaging free radicals are equivalent to a source of sparks which is always present naturally.
2. Cancer is equivalent the fire you get if the sparks are allowed to ignite the gasoline, i.e. if the free radicals are allowed to damage DNA without the damage being repaired.
3. Protein P53 is equivalent to a fire suppression system which is constantly damping out the sparks, or repairing the damaged DNA so that cancer doesn't occur.

In this way of thinking, the 'cause' of cancer will be down to a failure of a DNA repairing enzyme like protein P53 to repair the damage.

**Dr Jane Orient, 'Homeland Security for Physicians', *Journal of American Physicians and Surgeons*, vol. 11, number 3, Fall 2006, pp. 75-9:**

'In the 1960s, a group of activist physicians called Physicians for Social Responsibility (PSR) undertook to "educate the medical profession and the world about the dangers of nuclear weapons," beginning with a series of articles in the *New England Journal of Medicine*. [Note that journal was publishing information for anti-civil defense propaganda back in 1949, e.g. the article in volume 241, pp. 647-53 of *New England Journal of Medicine* which falsely suggests that civil defense in nuclear war would be hopeless because a single burned patient in 1947 with 40% body area burns required 42 oxygen tanks, 36 pints of plasma, 40 pints of whole blood, 104 pints of fluids, 4,300 m of gauze, 3 nurses and 2 doctors. First, only unclothed persons in direct line of sight without shadowing can get 40% body area burns from thermal radiation, second, duck and cover offers protection in a nuclear attack warning, and G. V. LeRoy had already published, two years earlier, in *J.A.M.A.*, volume 134, 1947, pp. 1143-8, that less than 5% of burns in Hiroshima and Nagasaki were caused by building and debris fires. In medicine it is always possible to expend vast resources on patients who are fatally injured. In a mass casualty situation, doctors should not give up just because they don't have unlimited resources; as at



**Hiroshima and Nagasaki, they would need to do their best with what they have.]** On its website, [www.psr.org](http://www.psr.org), the group boasts that it "led the campaign to end atmospheric nuclear testing." With this campaign, the linear no-threshold (LNT) theory of radiation carcinogenesis became entrenched. It enabled activists to calculate enormous numbers of potential casualties by taking a tiny risk and multiplying it by the population of the earth. As an enduring consequence, the perceived risks of radiation are far out of proportion to actual risks, causing tremendous damage to the American nuclear industry. ... Efforts to save lives were not only futile, but unethical: Any suggestion that nuclear war could be survivable increased its likelihood and was thus tantamount to warmongering, PSR spokesmen warned. ...

'For the mindset that engendered and enables this situation, which jeopardizes the existence of the United States as a nation as well as the lives of millions of its citizens, some American physicians and certain prestigious medical organizations bear a heavy responsibility.

'Ethical physicians should stand ready to help patients to the best of their ability, and not advocate sacrificing them in the name of a political agenda. **Even very basic knowledge, especially combined with simple, inexpensive advance preparations, could save countless lives.'**

**Dr Theodore B. Taylor, *Proceedings of the Second Interdisciplinary Conference on Selected Effects of a General War*, DASIAC Special Report 95, July 1969, vol. 2, DASA-2019-2, AD0696959, page 298 (also [linked here](#)):**

'I must just say that as far as I'm concerned I have had some doubts about whether we should have had a civil defense program in the past. I have no doubt whatsoever now, for this reason, that I've seen **ways in which the deterrent forces can fail to hold things off, so that no matter what our national leaders do, criminal organizations, what have you, groups of people over which we have no control whatsoever, can threaten other groups of people.'**

**This point of Taylor is the key fact on the morality. Suppose we disarm and abandon nuclear power. That won't stop fallout from a war, terrorists, or a foreign reactor blast from coming. Civil defence knowledge is needed. Even when America has ABM, it will be vulnerable to wind carried fallout. No quantity of pacifist hot air will protect people against radiation.**

Charles J. Hitch and Roland B. McKean of the RAND Corporation in their 1960 book *The Economics of Defense in the Nuclear Age*, Harvard University Press, Massachusetts, pp. 310-57:

'With each side possessing only a small striking force, a small amount of cheating would give one side dominance over the other, and the incentive to cheat and prepare a preventative attack would be strong ... With each side possessing, say, several thousand missiles, a vast amount of cheating would be necessary to give one side the ability to wipe out the other's striking capability. ... the more extensive a disarmament agreement is, the smaller the force that a violator would have to hide in order to achieve complete domination. Most obviously, "the abolition of the weapons necessary in a general or 'unlimited' war" would offer the most insuperable obstacles to an inspection plan, since the violator could gain an overwhelming advantage from the concealment of even a few weapons.'

Disarmament after World War I caused the following problem which led to World War II (reported by Winston S. Churchill in the London Daily Express newspaper of November 1, 1934):

'Germany is arming secretly, illegally and rapidly. A reign of terror exists in Germany to keep secret the feverish and terrible preparations they are making.'

British Prime Minister Thatcher's address to the United Nations General Assembly on disarmament on 23 June 1982, where she pointed out that in the years since the nuclear attacks on Hiroshima and Nagasaki, 10 million people had been killed by 140 non-nuclear conflicts:

'The fundamental risk to peace is not the existence of weapons of particular types. It is the disposition on the part of some states to impose change on others by resorting to force against other nations ... Aggressors do not start wars because an adversary has built up his own strength. They start wars because they believe they can gain more by going to war than by remaining at peace.'

J. D. Culshaw, the then Director of the U.K. Home Office Scientific Advisory Branch, stated in his article in the Scientific Advisory Branch journal *Fission Fragments*, September 1972 (issue No. 19), classified 'Restricted':

'Apart from those who don't want to know or can't be bothered, there seem to be three major schools of thought about the nature of a possible Third World War ...

\* 'The first group think of something like World War II but a little worse ...

\* '... the second of World War II but very much worse ...

\* 'and the third group think in terms of a catastrophe ...

'When the Armageddon concept is in favour, the suggestion that such problems exist leads to "way out" research on these phenomena, and it is sufficient to mention a new catastrophic threat [e.g., 10 years later this was done by Sagan with "nuclear winter" hype, which turned out to be fake because modern concrete cities can't produce firestorms like 1940s wooden-built areas of Hamburg, Dresden and Hiroshima] to stimulate research into the possibilities of it arising. The underlying appeal of this concept is that if one could show that the execution of all out nuclear, biological or chemical warfare would precipitate the end of the world, no one but a mad man would be prepared to initiate such a war. [However, as history proves, plenty of mad men end up gaining power and leading countries into wars.]'

J. K. S. Clayton, then Director of the U.K. Home Office Scientific Advisory Branch, stated in his introduction, entitled *The Challenge - Why Home Defence?*, to the 1977 Home Office Scientific Advisory Branch *Training Manual for Scientific Advisers*:

'Since 1945 we have had nine wars - in Korea, Malaysia and Vietnam, between China and India, China and Russia, India and Pakistan and between the Arabs and Israelis on three occasions. We have had confrontations between East and West over Berlin, Formosa and Cuba. There have been civil wars or rebellions in no less than eleven countries and invasions or threatened invasions of another five. Whilst it is not suggested that all these incidents could have resulted in major wars, they do indicate the aptitude of mankind to resort to a forceful solution of its problems, sometimes with success. ...'

It is estimated that Mongol invaders exterminated 35 million Chinese between 1311-40, without modern weapons. Communist Chinese killed 26.3 million dissenters between 1949 and May 1965, according to detailed data compiled by the Russians on 7 April 1969. The Soviet communist dictatorship killed 40 million dissenters, mainly owners of small farms, between 1917-59. Conventional (non-nuclear) air raids on Japan killed 600,000 during World War II. The single incendiary air raid on Tokyo on 10 March 1945 killed 140,000 people (more than the total for nuclear bombs on Hiroshima and Nagasaki combined) at much less than the \$2 billion expense of the Hiroshima and Nagasaki nuclear bombs! Non-nuclear air raids on Germany during World War II killed 593,000 civilians. The argument that the enemy will continue stocking megaton fallout weapons if we go to cleaner weapons is irrelevant for deterrence, since we're not planning to start war, just to credibly deter invasions. You should not try to lower your standards of warfare to those of your enemy to appease groupthink taboos, or you will end up like Britain's leaders in the 1930s, trying to collaborate with fascists for popular applause.

**House of Lords debate *Nuclear Weapons: Destructive Power*, published in Hansard, 14 June 1988:**

**Lord Hailsham of Saint Marylebone:** 'My Lords, if we are going into the question of lethality of weapons and seek thereby to isolate the nuclear as distinct from the so-called conventional range, is there not a danger that the public may think that Vimy, Passchendaele and Dresden were all right—sort of tea parties—and that nuclear war is something which in itself is unacceptable?'

**Lord Trefgarne:** 'My Lords, the policy of making Europe, or the rest of the world, safe for conventional war is not one that I support.'

**House of Commons debate *Civil Defence* published in Hansard, 26 October 1983:**

**Mr. Bill Walker (Tayside, North):** 'I remind the House that more people died at Stalingrad than at Hiroshima or Nagasaki. Yet people talk about fighting a conventional war in Europe as if it were acceptable. One rarely sees demonstrations by the so-called peace movement against a conventional war in Europe, but it could be nothing but ghastly and horrendous. The casualties would certainly exceed those at Stalingrad, and that cannot be acceptable to anyone who wants peace'

On 29 October 1982, Thatcher stated of the Berlin Wall: 'In every decade since the war the Soviet leaders have been reminded that their pitiless ideology only survives because it is maintained by force. But the day comes when the anger and frustration of the people is so great that force cannot contain it. Then the edifice cracks: the mortar crumbles ... one day, liberty will dawn on the other side of the wall.'

On 22 November 1990, she said: 'Today, we have a Europe ... where the threat to our security from the overwhelming conventional forces of the Warsaw Pact has been removed; where the Berlin Wall has been torn down and the Cold War is at an end. These immense changes did not come about by chance. They have been achieved by strength and resolution in defence, and by a refusal ever to be intimidated.'

**'The case for civil defence stands regardless of whether a nuclear deterrent is necessary or not. ... Even if the U.K. were not itself at war, we would be as powerless to prevent fallout from a nuclear explosion crossing the sea as was King Canute to stop the tide.'** - **U.K. Home Office leaflet, Civil Defence, 1982.**

'... peace cannot be guaranteed absolutely. Nobody can be certain, no matter what policies this or any other Government were to adopt, that the United Kingdom would never again be attacked. Also we cannot tell what form such an attack might take. Current strategic thinking suggests that if war were to break out it would start with a period of conventional hostilities of uncertain duration which might or might not escalate to nuclear conflict. ... while nuclear weapons exist there must always be a chance, however small, that they will be used against us [like gas bombs in World War II]. ... as a consequence of war between other nations in which we were not involved fall out from nuclear explosions could fall on a neutral Britain. ... conventional war is not the soft option that is sometimes suggested. It is also too easily forgotten that in World War II some 50 million people died and that conventional weapons have gone on killing people ever since 1945 without respite.' - **The Minister of State, Scottish Office (Lord Gray of Contin), House of Lords debate on Civil Defence (General Local Authority Functions) Regulations, Hansard, vol. 444, cc. 523-49, 1 November 1983.**

'All of us are living in the light and warmth of a huge hydrogen bomb, 860,000 miles across and 93 million miles away, which is in a state of continuous explosion.' - Dr Isaac Asimov.

'Dr Edward Teller remarked recently that the origin of the earth was somewhat like the explosion of the atomic bomb...' - Dr Harold C. Urey, *The Planets: Their Origin and Development*, Yale University Press, New Haven, 1952, p. ix.

'But compared with a supernova a hydrogen bomb is the merest trifle. For a supernova is equal in violence to about a million million million hydrogen bombs all going off at the same time.' - Sir Fred Hoyle (1915-2001), *The Nature of the Universe*, Pelican Books, London, 1963, p. 75.

'In fact, physicists find plenty of interesting and novel physics in the environment of a nuclear explosion. Some of the physical phenomena are valuable objects of research, and promise to provide further understanding of nature.' - Dr Harold L. Brode, The RAND Corporation, 'Review of Nuclear Weapons Effects,' *Annual Review of Nuclear Science*, Volume 18, 1968, pp. 153-202.

'It seems that similarities do exist between the processes of formation of single particles from nuclear explosions and formation of the solar system from the debris of a [4 x 10<sup>28</sup> megatons of TNT equivalent, type Ia] supernova explosion. We may be able to learn much more about the origin of the earth, by further investigating the process of radioactive fallout from the nuclear weapons tests.' - **Dr Paul K. Kuroda (1917-2001)**, University of Arkansas, 'Radioactive Fallout in Astronomical Settings: Plutonium-244 in the Early Environment of the Solar System,' pages 83-96 of *Radionuclides in the Environment: A Symposium Sponsored By the Division of Nuclear Chemistry and Technology At the 155th Meeting of the American Chemical Society, San Francisco, California, April 1-3, 1968*, edited by Symposium Chairman Dr Edward C. Freiling (1922-2000) of the U.S. Naval Radiological Defense Laboratory, Advances in Chemistry Series No. 93, American Chemical Society, Washington, D.C., 1970.

**Dr Paul K. Kuroda (1917-2001)** in 1956 correctly predicted the existence of water-moderated natural nuclear reactors in flooded uranium ore seams, which were discovered in 1972 by French physicist Francis Perrin in three ore deposits at Oklo in Gabon, where sixteen sites operated as natural nuclear reactors with self-sustaining nuclear fission 2,000 million years ago, each lasting several hundred thousand years, averaging 100 kW. The radioactive waste they generated remained in situ for a period of 2,000,000,000 years without escaping. They were discovered during investigations into why the U-235 content of the uranium in the ore was only 0.7171% instead of the normal 0.7202%. Some of the ore, in the middle of the natural reactors, had a U-235 isotopic abundance of just 0.440%. Kuroda's brilliant paper is

entitled, 'On the Nuclear Physical Stability of the Uranium Minerals', published in the *Journal of Chemical Physics*, vol. 25 (1956), pp. 781–782 and 1295–1296.

A type Ia supernova explosion, always yielding  $4 \times 10^{28}$  megatons of TNT equivalent, results from the critical mass effect of the collapse of a white dwarf as soon as its mass exceeds 1.4 solar masses due to matter falling in from a companion star. The degenerate electron gas in the white dwarf is then no longer able to support the pressure from the weight of gas, which collapses, thereby releasing enough gravitational potential energy as heat and pressure to cause the fusion of carbon and oxygen into heavy elements, creating massive amounts of radioactive nuclides, particularly intensely radioactive nickel-56, but half of all other nuclides (including uranium and heavier) are also produced by the **'R' (rapid) process of successive neutron captures by fusion products in supernovae explosions**. Type Ia supernovae occur typically every 400 years in the Milky Way galaxy. On 4 July 1054, Chinese astronomers observed in the sky (without optical instruments) the bright supernova in the constellation Taurus which today is still visible as the Crab Nebula through telescopes. The Crab Nebula debris has a diameter now of 7 light years and is still expanding at 800 miles/second. The supernova debris shock wave triggers star formation when it encounters hydrogen gas in space by compressing it and seeding it with debris; bright stars are observed in the Orion Halo, the 300 light year diameter remains of a supernova. It is estimated that when the solar system was forming 4,540 million years ago, a supernova occurred around 100 light years away, and the heavy radioactive debris shock wave expanded at 1,000 miles/second. Most of the heavy elements including iron, silicon and calcium in the Earth and people are the stable end products of originally radioactive decay chains from the space burst fallout of a  $7 \times 10^{26}$  megatons thermonuclear explosion, created by fusion and successive neutron captures after the implosion of a white dwarf; a supernova explosion.

How would a  $10^{55}$  megaton hydrogen bomb explosion differ from the **big bang**? Ignorant answers biased in favour of curved spacetime (ignoring quantum gravity!) abound, such as claims that explosions can't take place in 'outer space' (disagreeing with the facts from nuclear space bursts by Russia and America in 1962, not to mention natural supernova explosions in space!) and that explosions produce sound waves in air by definition! There are indeed major differences in the nuclear reactions between the big bang and a nuclear bomb. But it is helpful to notice the solid physical fact that implosion systems suggest the mechanism of gravitation: in implosion, TNT is well-known to produce an *inward* force on a bomb core, but Newton's 3rd law says there is an equal and opposite reaction force *outward*. In fact, you can't have a radially outward force without an inward reaction force! It's the rocket principle. The rocket accelerates (with force  $F = ma$ ) *forward* by virtue of the recoil from accelerating the exhaust gas (with force  $F = -ma$ ) in the *opposite* direction! Nothing massive accelerates without an equal and opposite reaction force. Applying this *fact* to the **measured  $6 \times 10^{-10} \text{ ms}^{-2} \sim Hc$  cosmological acceleration of matter radially outward** from observers in the universe which **was predicted accurately in 1996** and later observationally discovered in 1999 (by Perlmutter, et al.), we find an outward force  $F = ma$  and inward reaction force by the 3rd law. **The inward force allows quantitative predictions, and is mediated by gravitons, predicting gravitation in a checkable way (unlike string theory, which is just a landscape of  $10^{500}$  different perturbative theories and so can't make any falsifiable predictions about gravity)**. So it seems as if nuclear explosions do indeed provide helpful analogies to natural features of the world, and the mainstream lambda-CDM model of cosmology - with its force-fitted unobserved *ad hoc* speculative 'dark energy' - ignores and sweeps under the rug major quantum gravity effects which increase the physical understanding of particle physics, particularly force unification and the relation of gravitation to the existing electroweak SU(2) x U(1) section of the Standard Model of fundamental forces.

**Richard Lieu, Physics Department, University of Alabama, 'Lambda-CDM cosmology: how much suppression of credible evidence, and does the model really lead its competitors, using all evidence?', <http://arxiv.org/abs/0705.2462>.**

Even Einstein grasped the possibility that general relativity's lambda-CDM model is at best just a classical approximation to quantum field theory, at the end of his life when he wrote to Besso in 1954:

'I consider it quite possible that physics cannot be based on the [classical differential equation] field principle, i.e., on continuous structures. In that case, nothing remains of my entire castle in the air, [non-quantum] gravitation theory included ...'

'Science is the organized skepticism in the reliability of expert opinion.' - Professor Richard P. Feynman (quoted by Professor Lee Smolin, *The Trouble with Physics*, Houghton-Mifflin, New York, 2006, p. 307).



'The expression of dissenting views may not seem like much of a threat to a powerful organization, yet sometimes it triggers an amazingly hostile response. The reason is that a single dissenter can puncture an illusion of unanimity. ... Among those suppressed have been the engineers who tried to point out problems with the Challenger space shuttle that caused it to blow up. More fundamentally, suppression is a denial of the open dialogue and debate that are the foundation of a free society. Even worse than the silencing of dissidents is the chilling effect such practices have on others. For every individual who speaks out, numerous others decide to play it safe and keep quiet. More serious than external censorship is the problem of self-censorship.'

— Professor Brian Martin, University of Wollongong, 'Stamping Out Dissent', Newsweek, 26 April 1993, pp. 49-50

In 1896, Sir James Mackenzie-Davidson asked Wilhelm Röntgen, who discovered X-rays in 1895: 'What did you think?' Röntgen replied: 'I did not think, I investigated.' The reason? Cathode ray expert J. J. Thomson in 1894 saw glass fluorescence far from a tube, but due to prejudice (expert opinion) he avoided investigating that X-ray evidence! 'Science is the organized skepticism in the reliability of expert opinion.' - Richard Feynman, in Lee Smolin, *The Trouble with Physics*, Houghton-Mifflin, 2006, p. 307.

Mathematical symbols in this blog: your computer's browser needs access to standard character symbol sets to display Greek symbols for mathematical physics. If you don't have the symbol character sets installed, the density symbol ' $\rho$ ' (*Rho*) will appear as 'r' and the ' $\pi$ ' (*Pi*) symbol will as 'p', causing confusion with the use of 'r' for radius and 'p' for momentum in formulae. This problem exists with Mozilla Firefox 3, but not with Microsoft Explorer which displays Greek symbols.

### About Me



**Name:** nige

Currently designing secure active server page (ASP) front ends for client SQL databases. In 1982 I began programming in basic, and at college learned Fortran while a physics undergraduate a decade later. Afterwards, I switched from mainstream physics and mathematical education to part-time programming student, while working in a series of jobs including four years in credit control. [www.quantumfieldtheory.org](http://www.quantumfieldtheory.org) <http://glasstone.blogspot.co.uk/2015/07/capabilities-of-nuclear-weapons.html/> <http://www.math.columbia.edu/~woit/wordpress/?p=273#comment-5322>. <http://www.math.columbia.edu/~woit/wordpress/?p=353&cpage=1#comment-8728>. <http://www.math.columbia.edu/~woit/wordpress/?p=215#comment-4082>.

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**From 1945-62, America tested 216 nuclear weapons in the atmosphere, totalling 154 megatons, with a mean yield of 713 kilotons**

**From 1949-62, Russia tested 214 nuclear weapons in the atmosphere, totalling 281 megatons, with a mean yield of 1.31 megatons**

**From 1952-8, Britain tested 21 nuclear weapons in the atmosphere, totalling 10.8 megatons, with a mean yield of 514 kilotons**

**From 1960-74, France tested 46 nuclear weapons in the atmosphere, totalling 11.4 megatons, with a mean yield of 248 kilotons**

**From 1964-80, China tested 23 nuclear weapons in the atmosphere, totalling 21.5 megatons, with a mean yield of 935 kilotons**

**In summary, from 1945-80, America, Russia, Britain, France and China tested 520 nuclear weapons in the atmosphere, totalling 478.7 megatons, with a mean yield of 921 kilotons**

Mean yield of the 5,192 nuclear warheads and bombs in the deployed Russian nuclear stockpile as of January 2009: 0.317 Mt. Total yield: 1,646 Mt.

Mean yield of the 4,552 nuclear warheads and bombs in the deployed U.S. nuclear stockpile as of January 2007: 0.257 Mt. Total yield: 1,172 Mt.

For diffraction damage where damage areas scale as the two-thirds power of explosive yield, this stockpile's area damage potential can be compared to the 20,000,000 conventional bombs of 100 kg size (2 megatons of TNT equivalent total *energy*) dropped on Germany during

World War II: (Total nuclear bomb blast diffraction damaged ground *area*)/(Total conventional blast diffraction damaged ground *area* to Germany during World War II) =  $[4,552 \times (0.257 \text{ Mt})^{2/3}] / [20,000,000 \times (0.0000001 \text{ Mt})^{2/3}] = 1,840/431 = 4.3$ . Thus, although the entire U.S. stockpile has a TNT *energy* equivalent to 586 times that of the 2 megatons of conventional bombs dropped on Germany in World War II, it is only capable of causing 4.3 times as much diffraction type damage area, because *any given amount of explosive energy is far more efficient when distributed over many small explosions than in a single large explosion! Large explosions are inefficient because they cause unintended collateral damage, wasting energy off the target area and injuring or damaging unintended targets!*

In a controlled sample of 36,500 survivors, 89 people got leukemia over a 40 year period, above the number in the unexposed control group. (Data: *Radiation Research*, volume 146, 1996, pages 1-27.) Over 40 years, in 36,500 survivors monitored, there were 176 leukemia deaths which is 89 more than the control (unexposed) group got naturally. There were 4,687 other cancer deaths, but that was merely 339 above the number in the control (unexposed) group, so this is statistically a much smaller rise than the leukemia result. Natural leukemia rates, which are very low in any case, were increased by 51% in the irradiated survivors, but other cancers were merely increased by just 7%. Adding all the cancers together, the total was 4,863 cancers (virtually all natural cancer, notbing whatsoever to do with radiation), which is just 428 more than the unexposed control group. Hence, the total increase over the natural cancer rate due to bomb exposure was only 9%, spread over a period of 40 years. There was no increase whatsoever in genetic malformations.

**There should be a note here about how unnatural radioactive pollution is (not) in space: the earth's atmosphere is a radiation shield equivalent to being protected behind a layer of water 10 metres thick. This reduces the cosmic background radiation by a factor of 100 of what it would be without the earth's atmosphere. Away from the largely uninhabited poles, the Earth's magnetic field also protects us against charged cosmic radiations, which are deflected and end up spiralling around the magnetic field at high altitude, in the Van Allen trapped radiation belts. On the Moon, for example, there is no atmosphere or significant magnetic field so the natural backgroand radiation exposure rate at solar minimum is 1 milliRoentgen per hour (about 10 microSieverts/hour) some 100 times that on the Earth (0.010 milliRoentgen per hour or about 0.10 microSieverts/hour). The Apollo astronauts visiting the Moon wore dosimeters and they received an average of 275 milliRoentgens (about 2.75 milliSieverts) of radiation (well over a year's exposure to natural background at sea level) in over just 19.5 days. It is a lot more than that during a solar flare, which is one of the concerns for astronauts to avoid (micrometeorites are another concern in a soft spacesuit).**

**The higher up you are above sea level, the less of the atmosphere there is between you and space, so the less shielding you have to protect you from the intense cosmic space radiations (emitted by thermonuclear reactors we call 'stars', as well as distant supernovae explosions). At sea level, the air above you constitutes a radiation shield of 10 tons per square metre or the equivalent of having a 10 metres thick water shield between you and outer space. As you go up a mountain or up in an aircraft, the amount of atmosphere between you and space decreases, thus radiation levels increase with altitude because there is less shielding. The normal backgroand radiation exposure rate shoots up by a factor of 20, from 0.010 to 0.20 milliRoentgens per hour, when any airplane ascends from sea level to 36,000 feet cruising altitude. (The now obsolete British Concorde supersonic transport used to maintain radiation-monitoring equipment so that it could drop to lower-altitude flight routes if excessive cosmic radiation due to solar storms were detected.) Flight aircrew get more radiation exposure than many nuclear industry workers at nuclear power plants. Residents of the high altitude city of Denver get 100 milliRoentgens (about 1 milliSievert) more annual exposure than a resident of Washington, D.C., but the mainstream anti-radiation cranks don't campaign for the city to be shut to save kids radiation exposure, for mountain climbing to be banned, etc.!**

**1994 revised Introduction to Kearny's Nuclear War Survival Skills, by Dr Edward Teller, January 14, 1994:**

'If defense is neglected these weapons of attack become effective. They become available and desirable in the eyes of an imperialist dictator, even if his means are limited. Weapons of mass destruction could become equalizers between nations big and small, highly developed and primitive, if defense is neglected. If defense is developed and if it is made available for general prevention of war, weapons of aggression will become less desirable. Thus defense makes war itself less probable. ... One psychological defense mechanism against danger is to forget about it. This attitude is as common as it is disastrous. It may turn a limited danger into a fatal difficulty.'

Advice of Robert Watson-Watt (Chief Scientist on the World War II British Radar Project, defending Britain against enemy attacks): 'Give them the third best to go on with, the second best comes too late, the best never comes.'

From Wikipedia (a source of groupthink): 'Groupthink is a type of thought exhibited by group members who try to minimize conflict and reach consensus without critically testing, analyzing, and evaluating ideas. Individual creativity, uniqueness, and independent thinking are lost in the pursuit of group cohesiveness, as are the advantages of reasonable balance in choice and thought that might normally be obtained by making decisions as a group. During groupthink, members of the group avoid promoting viewpoints outside the comfort zone of consensus thinking. A variety of motives for this may exist such as a desire to avoid being seen as foolish, or a desire to avoid embarrassing or angering other members of the group. Groupthink may cause groups to make hasty, irrational decisions, where individual doubts are set aside, for fear of upsetting the group's balance.'

## Links

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- ◆ [DTRA \(Defense Threat Reduction Agency\) Nuclear testing histories \(PDF files\)](#)
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- ◆ [Colonel Derek L. Duke's factual book on nuclear weapons accidents, \*Chasing Loose Nukes, as told to Fred Dungan\*](#)
- ◆ [The H-Bomb and the birth of the Universe: 'For 100 Million years after time began, the universe was dark as pitch. The clouds of hydrogen condensed into huge nuclear fireballs. That moment-when the universe first lit up-was the moment of creation that matters...'](#)
- ◆ [American \*EMP Interaction\* manual: comprehensive theory of both the EMP source mechanism and the EMP pick-up in cables and antenna by electromagnetic inductance \(30 MB PDF file\)](#)
- ◆ [British Mission to Japan, \*The Effects of the Atomic Bombs at Hiroshima and Nagasaki\*, H. M. Stationery Office, London, 1946 \(high quality 42.5 MB pdf file\).](#)
- ◆ [1950 edition \(high quality 82.7 MB PDF file\) of U.S. Department of Defense book \*The Effects of Atomic Weapons\*](#)
- ◆ [1957 edition \(high quality 90.8 MB PDF file\) of subsequently deleted sections on nuclear tests of civil defense countermeasures from U.S. Department of Defense book \*The Effects of Nuclear Weapons\*](#)
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- ◆ [1962/64 edition \(high quality 188 MB PDF file\) of major revised sections in the U.S. Department of Defense book \*The Effects of Nuclear Weapons\*](#)

- ◆ 1962/64 edition (high quality 43.8 MB PDF file) of 74 pages of subsequently deleted material dealing with thermal ignition of houses at nuclear tests and civil defense countermeasures chapter, from the U.S. Department of Defense book *The Effects of Nuclear Weapons*
- ◆ 1977 edition (single 36.8 MB PDF file) of U.S. Department of Defense book *The Effects of Nuclear Weapons*
- ◆ Bill Forstchen, "One Second After" book about EMP attack risk and its effects on USA.
- ◆ U.S. Department of Energy Opennet Documents Online (includes many Nevada and Pacific nuclear test reports as PDF files)
- ◆ Defense Technical Information Center (DTIC)'s Scientific and Technical Information Network (STINET) Service (other declassified Nevada and Pacific test reports)
- ◆ Highlights from ABM testing history
- ◆ THAAD Goes Another ABM Test
- ◆ Alex Wellerstein's Restricted Data blog contains some interesting news (but beware of his uncritical use of unobstructed dry desert and nude skin thermal radiation and other effects predictions from the 1977 edition of Glasstone and Dolan; he deletes critically objective comments and pretends that honest criticisms of propaganda as being ignorant deception are rude as an excuse for ignoring the facts and refusing to engage in objective discussion of controversial aspects of this topic; basically if you pay homage and engage in groupthink bias you may be tolerated).
- ◆ Carey Sublette's Nuclear Weapon Archive (it contains errors from Chuck Hansen's compilation, and it is concentrated on bomb building, not on civil defence countermeasure evaluations done at nuclear tests; note that Chuck Hansen's books and CDs give a false quotation from Neil O' Hines's book *Proving Ground* on the effects of the 1952 Mike explosion on nearby Engebi Island, where Hines later in the book states that the native rats in fact *survived the intense close-in blast, heat und fallout under a few unches of soil, despite the initial ignorant belief that they could not have survived!!!*)

- Quantum Field Theory
- Los Alamos Science journal
- Excellent particle physics gauge theory (fundamental force interaction) issue of Los Alamos Science journal
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**NEWS: declassified clean nuclear weapons fallout s...**



**The Bank of Japan, Hiroshima, survived 380 m from Ground Zero, within the firestorm area, when fires were extinguished by water buckets by its survivors, the majority of people in the building having survived. Secret US Strategic Bombing Survey report proves civil defense for modern concrete buildings is effective. The building was reopened as a bank on 8 August, merely two days after nuclear attack, and continued in use as a bank until 1992. It remains in Hiroshima. This beautifully designed and sturdy reinforced concrete building was designed in 1936 by Nagano Uheiji. Cook's law: "Any man called Godwin who claims it is immoral to learn the lessons from the results of Nazi racist eugenics pseudoscience and to apply those lessons to those terrible media dominating celebrity-taboo-lovers who appease, cover-up, or defend the continuation of an evil, irrational pseudoscience which is causing unnecessary suffering today, is defending injustice, inhumanity and irrational consensus evil and is not behaving as a humane, objective, person. We need to ensure that the worst mistakes of the past are never repeated, if we are just, moral and caring towards our fellow human beings who do not deserve to be fed lies and dangerously complacent one-sided, biased propaganda based on a populist love of obsolete dogma, and/or a hatred of the search for objective fact, by pseudo-educationalists who prefer to live in utopia than in the real world of their fellow folk!"**